VISIT…

1 Round Band Puzzle Ring

Puzzle Goal:

Disassemble and re-assemble the ring.

Materials:

Brass

Classification: Take-apart

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1 Round Band Puzzle Ring

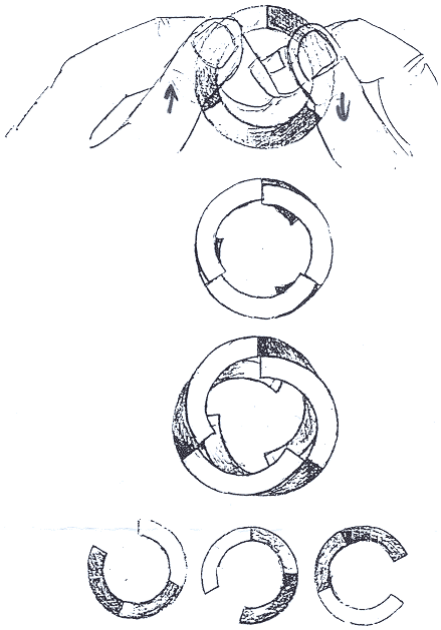
Puzzle Solution:

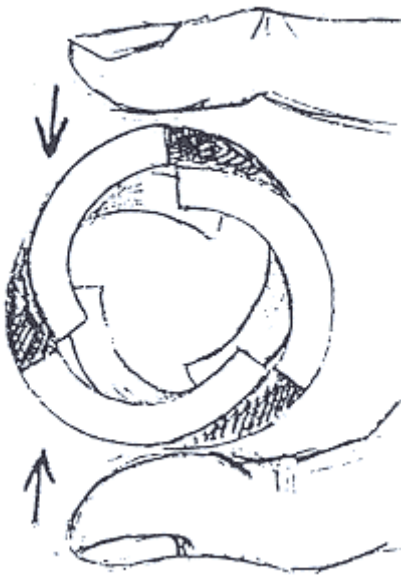
Disassemble:

- **Hold the ring on both sides between index finger and thumb. Make sure the cut in the middle.**
- **Together: push your right thumb towards the ring and down, your left thumb towards the ring and up. Push lightly, the more pressure you apply the harder it gets (if it stuck repeat several times).**

Assembly:

- **Now you have three pieces. The difficult part is to put it back together, it might take some time--do not despare.**
- **Place the pieces as seen in figure at right and apply pressure between index finger and thumb.**





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2

Camera Conundrum

Puzzle Goal:

- **Find the hidden drawer.**
- **Take the puzzle entirely apart into seven pieces and put it together again.**

Materials:

palisander and maple woods

Classification: Take-aport, 3D interlocking puzzle

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2 Camera Conundrum

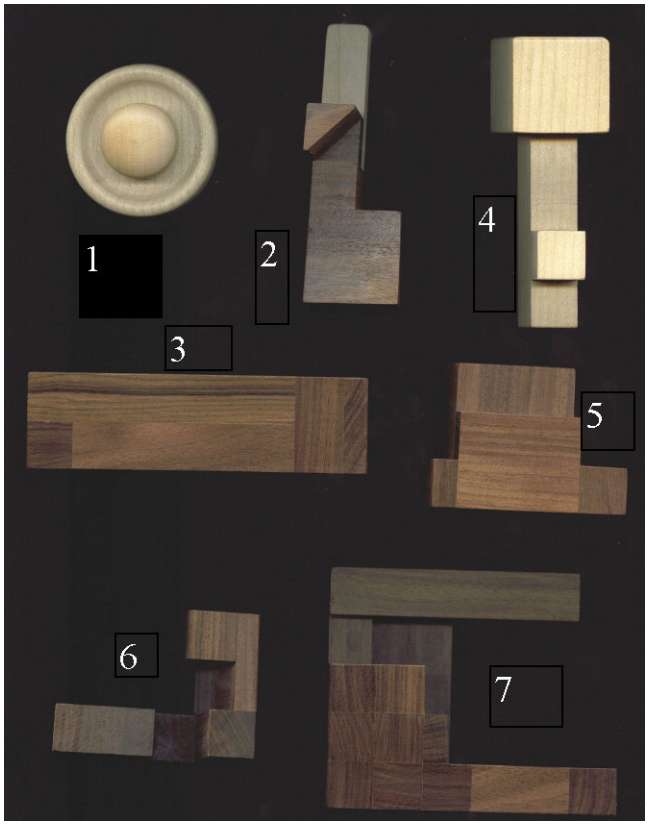
Puzzle Solution:

Find the hidden drawer.

1. "**Focus**" the camera by turning the inner round knob on the front completely clockwise (turning the outer ring is a red herring, it does nothing).
2. "**Click the Shutter**" by pressing down on the light colored button until it is flush with the camera body.
3. "**Wind the Camera**" by pushing piece 3 (the top) toward the flash cube.
4. "**Change the Flash Cube**" by pulling up on the large light colored cube.
5. "**Change the Film**" by pushing on piece 5 from the front of the camera until the drawer is exposed at the back of the camera where the film would go in. Now you can put a treasure in the small drawer and close it up again (be sure to turn the knob counterclockwise to set the puzzle), or take the camera entirely apart as an interlocking puzzle.

After finding the drawer, it is not too difficult to go further and take the entire puzzle apart. However putting it together again is the biggest challenge the puzzle has to offer.

1. Insert piece 2 into piece 7 so that the light button is pressed flush with the top surface of piece 7 matching the picture below.
2. Insert piece 4 (with the small knob facing towards you) into piece 3 to match the picture below.
3. Put these two sets of pieces together to match the picture below. Do not slide them all the way together until piece 5 is inserted in the next step.
4. Insert piece 5 from behind so that the drawer is in its extended position toward the back.
5. Insert piece 1 with the knob at 3 o'clock and once it is in, turn it counterclockwise until the knob points up to 12 o'clock (inside).
6. Insert piece 6 from below, it takes some maneuvering to get into position. First come from the right below to this position (the puzzle in the picture is shown from below).
7. Then slide piece 6 up into the camera to this position:
8. Finally, slide piece 6 closed into its final position like so:
9. Slide piece 5 into the camera until flush with the front:
10. Slide piece 4 down into the camera:
11. Slide piece 3 to the left to this position:
12. Push up piece 2 to expose the "button."
13. And finally, turn the inner round knob of piece 1 totally counterclockwise. This should now block the button from being fully depressed.



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3 Topsy-Turvy Triangles

Puzzle Goal:

The puzzle comes with the faces engraved in a triangular pattern. The goal is to put all the pieces in the tray with the engraved side down—in other words, flip over all the pieces and put them back into the tray.

Materials:

Wood

Classification: 1.1 Put-Together, Two Dimensional assembly

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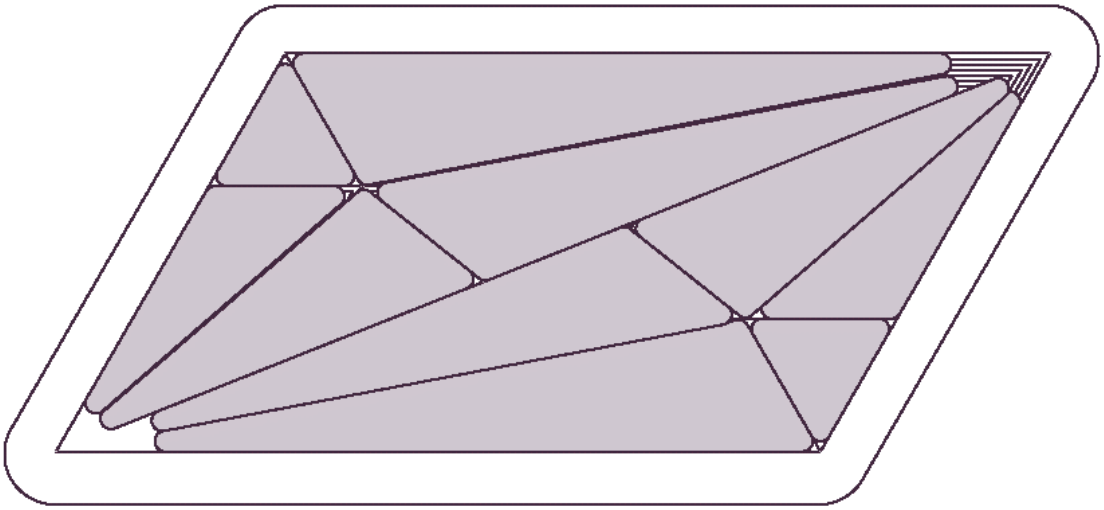
3 Topsy-Turvy Triangles

Puzzle Solution:



Note that the solution is basically two triangles with edge lengths three, five, and seven -- it is a curious fact that the 3-5-7 triangle has a sixty-degree angle. The corners of the triangle did not actually need to be rounded for the puzzle to work, but it was done both partly to fool experienced metagrobologists and to avoid sharp corners for possible future marketing.

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4 Trickbox

Puzzle Goal:

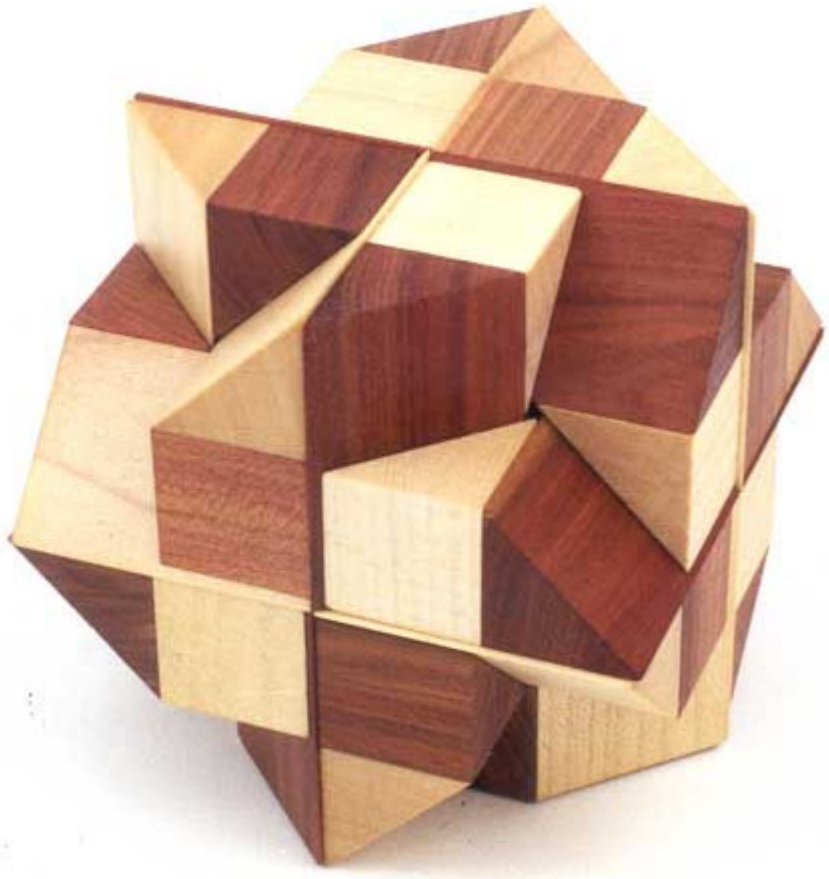
Free the marble.

Optionally you can disassemble and reassemble, but be forewarned, try not to-disassemble this puzzle completely—only a little open is needed to free the marble. Putting back together this puzzle is difficult.

Materials:

maple, plum-tree

Classification: Take–apart Puzzle



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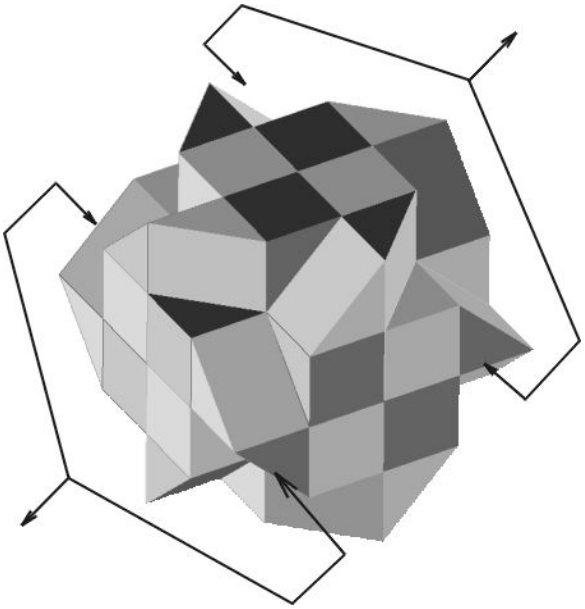
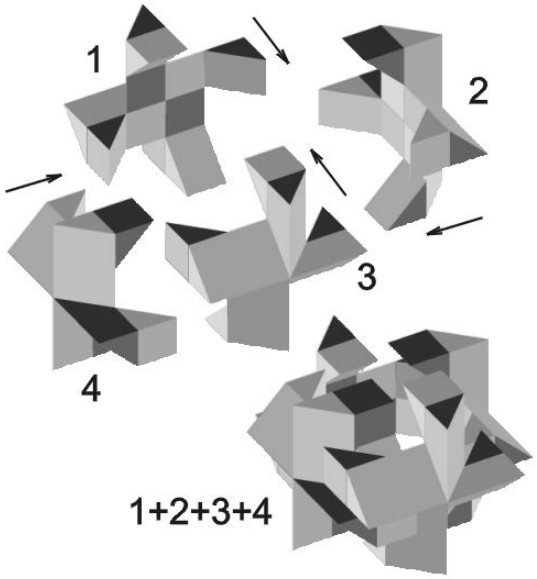
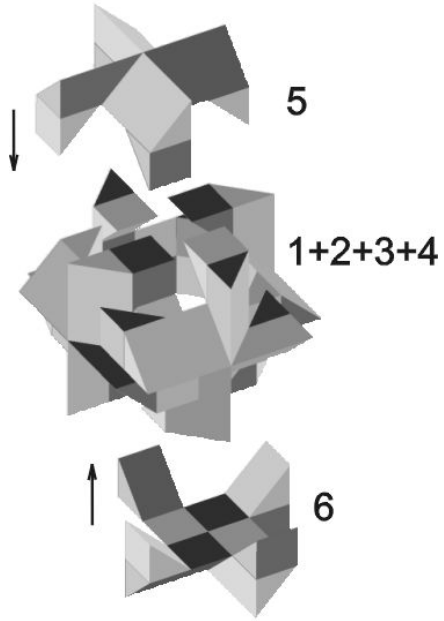
4 Trickbox

Puzzle Solution:







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5 Sandwich

Puzzle Goal:

Put eight pieces into stand.

Materials:

elm, beech, maple, plum-tree

Classification: Put Together Puzzle

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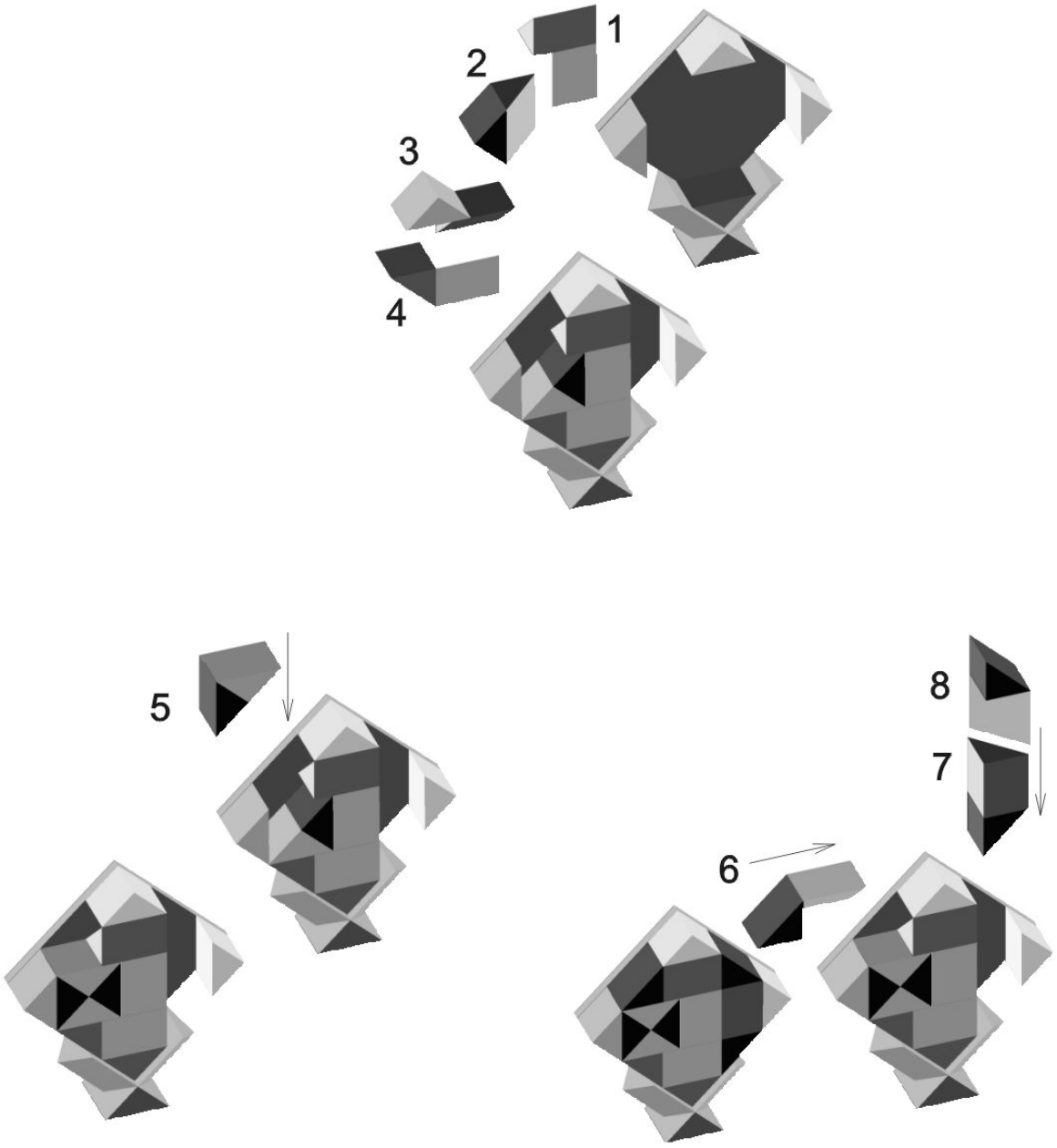
5 Sandwich

Puzzle Solution:



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6

Tritresor

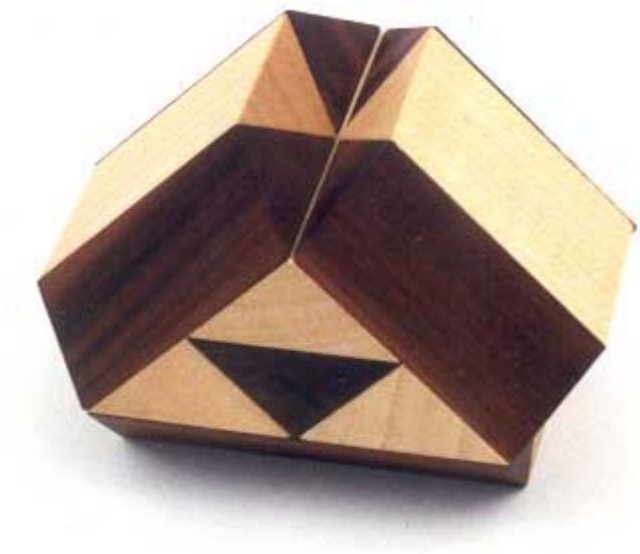
Puzzle Goal:

Free the marble

Materials:

maple, plum-tree

Classification: Take–apart Puzzle



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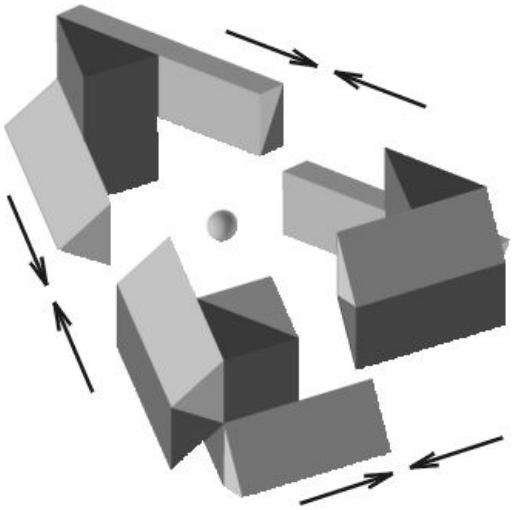
6 Tritresor

Puzzle Solution:



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7 The Trapped Man

Puzzle Goal:

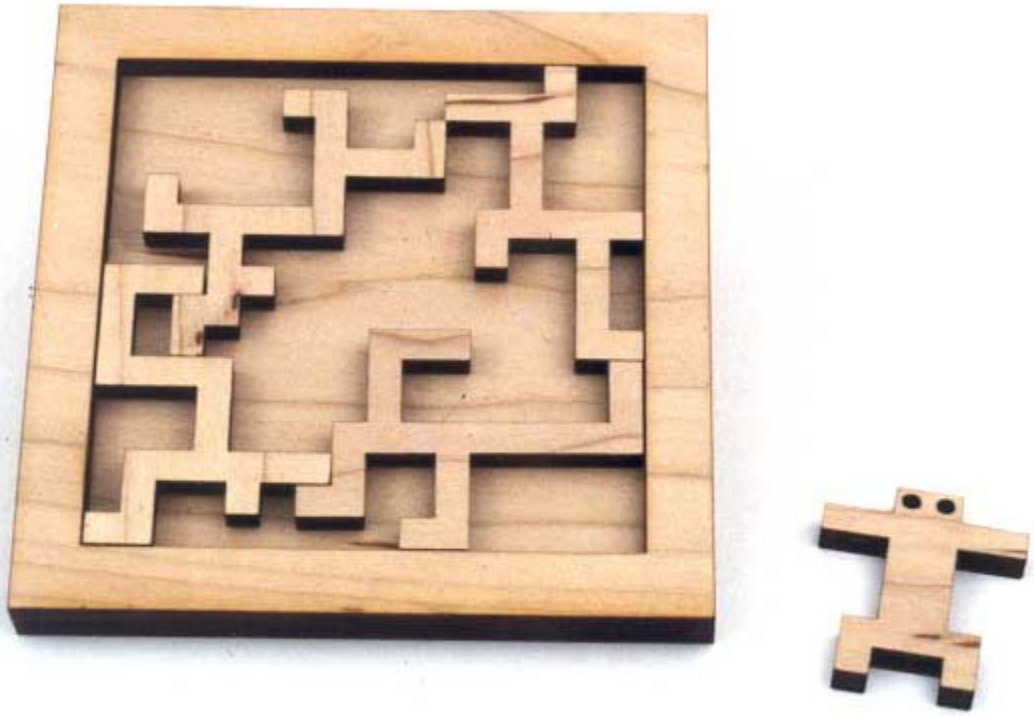
Insert the 5 pieces into the tray such that they interlock, that is, they cannot slide or rotate.

Having done that, do the same thing with any subset of 4 pieces, and any subset of 3 pieces. Additionally, arrange 5 pieces so that each pieces touches only one edge, and arrange 5 pieces outside the tray so that the pieces are interlocked.

Materials:

Walnut or Cherry wood

Classification: Put together



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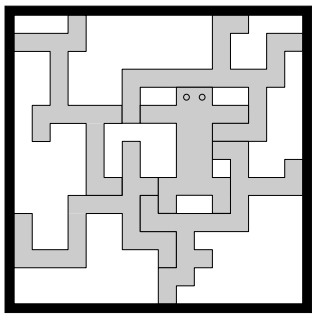
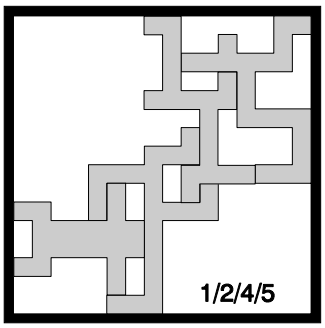
7 The Trapped Man

Puzzle Solution:

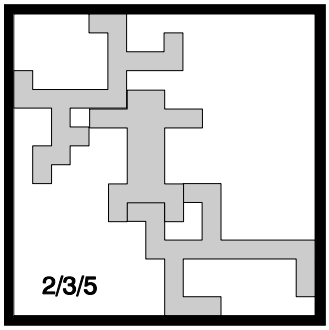
5 piece puzzle

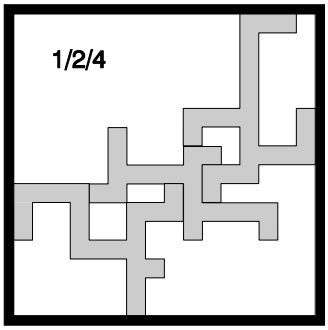


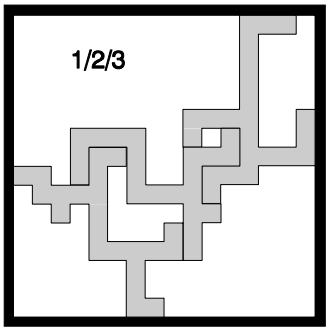
4 piece puzzle

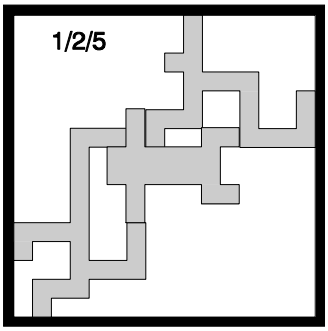


3 piece puzzle

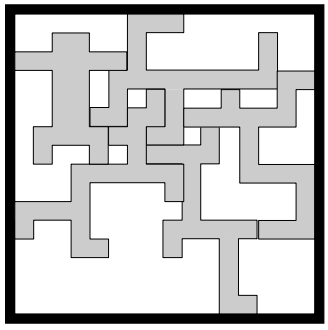




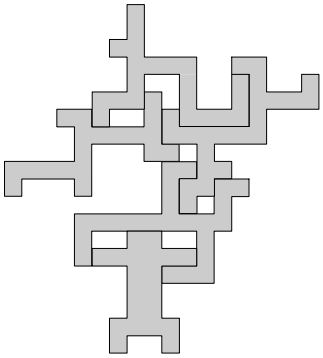




5 piece variation; Each piece touches only one side.



Outside tray; pieces interlocked



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8 PATHS

Puzzle Goal:

The aim of the puzzle is to achieve the best results possible for the following:

- **A. Path: the longest open path between two different places**
- **B. Circuit: the longest closed path**
- **C. Shards: the shortest path, the greatest number of non-sequenced stages**
- **D. Circles: the greatest number of closed paths**
- **E. Spider: the greatest sum of lengths of open paths coming from piece #18 ("star")**
- **F. Flower: the greatest sum of lengths of closed paths coming from piece #18 ("star")**

Materials:

paper/plastic

Classification: 2D Put-together

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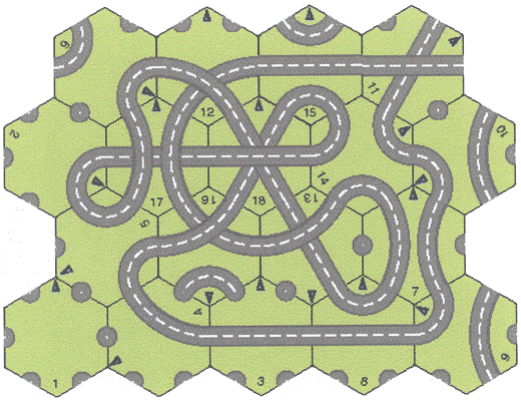
8

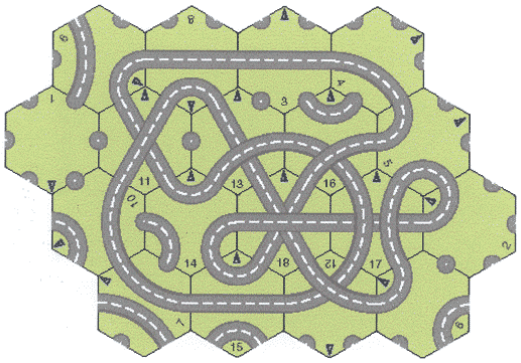
PATHS

Puzzle Solution:

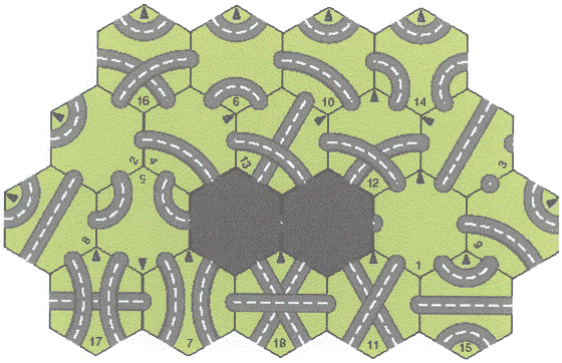
Path



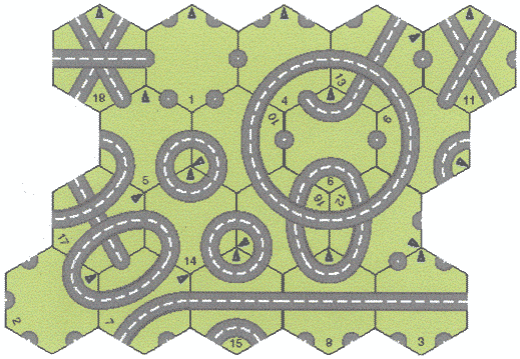
Circuit



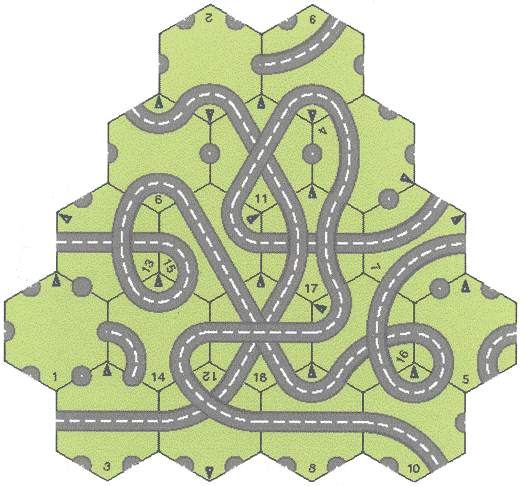
Chards



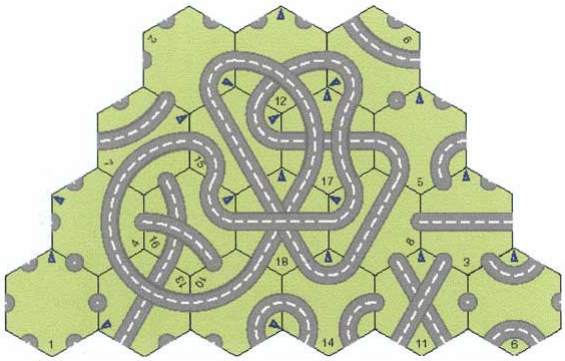
Circles



Spider



Flower



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9 Raindrops Puzzle

Puzzle Goal:

The mirror represents a pool of water in which raindrops are falling. The ripples caused by the raindrops are represented by rings. The object is to arrange a flat composition of overlapping rings on the pool.

Materials:

transparent acrylic rings and acrylic mirror

Classification: 3D assembly

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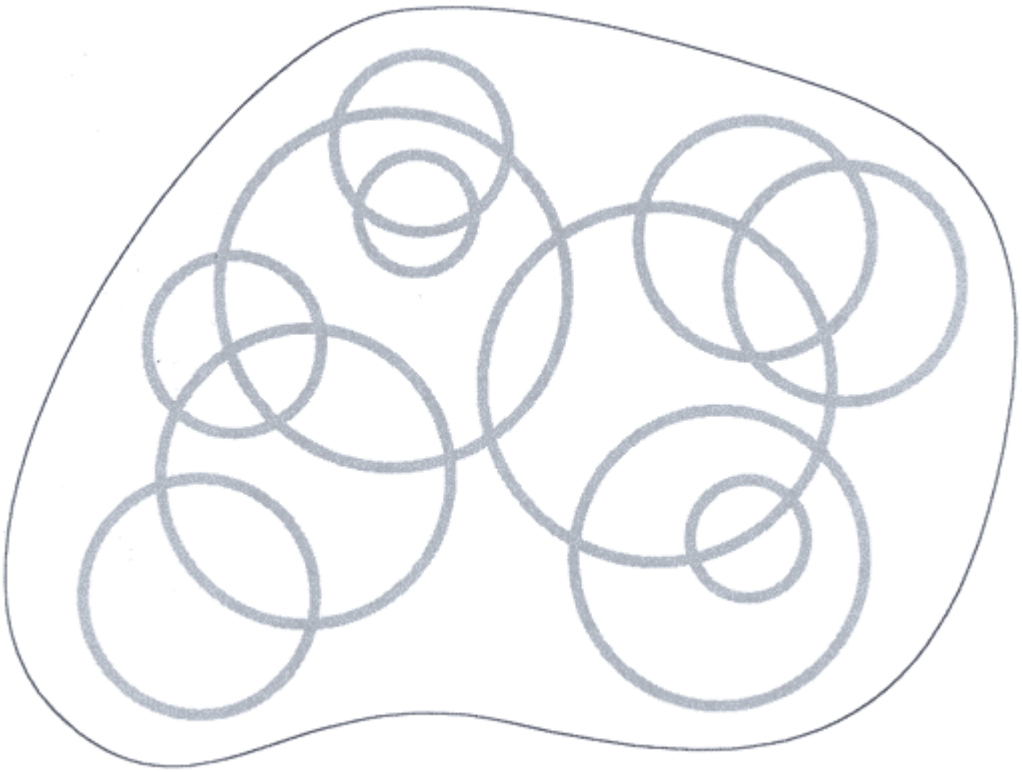
9 Raindrops Puzzle

Puzzle Solution:

Start with the rings with the largest diameter and end with the rings with the smallest diameter.



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10 Mirror Frame Puzzle

Puzzle Goal:

Use the short book screws to attach the seven wooden triangles to each other in the right order to make a uniform closed loop. Attach the mirror to the triangle with the two extra holes. Use the longer book screw and the hole nearest to the centre of the triangle. Now hang your Mirror Frame Puzzle against the wall using the hole left in the upper triangle. Remember the fun solving this puzzle each time you look into this mirror.

Materials:

acrylic mirror, 7 plywood triangles, book screws

Classification: 3D assembly

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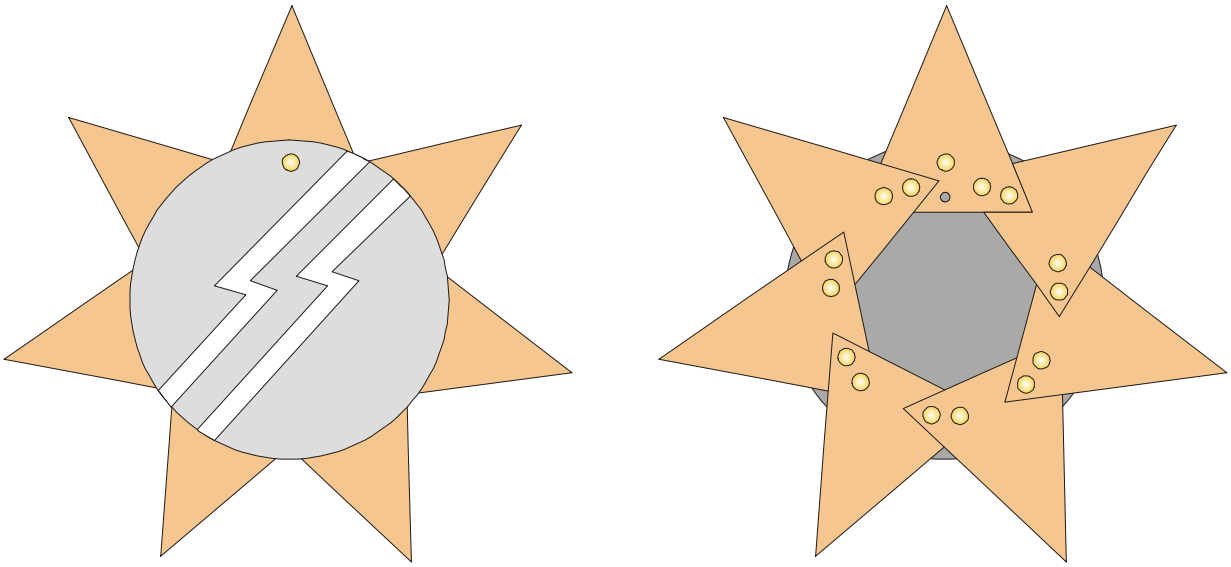
10 Mirror Frame Puzzle

Puzzle Solution:

The wooden triangles are marked on their backside with 1 to 7 dots. Looking at the back of the assembled loop of triangles the numbers on the triangles should be in clockwise order: 1, 3, 6, 2, 5, 4, 7.



Front Rear

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11 Archipelago Challenge

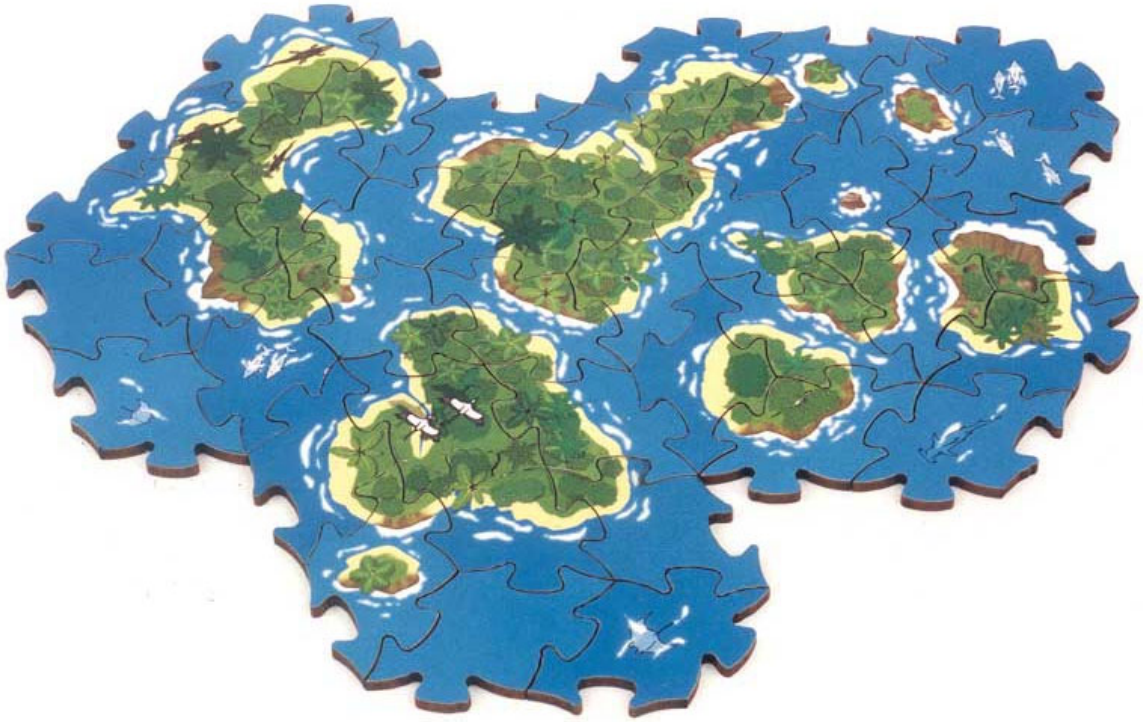
Puzzle Goal:

Using all of the 136 different tiles, form an archipelago of islands in which all of the islands are complete.

Materials:

3mm MDF

Classification: Put-together puzzle with edge matching



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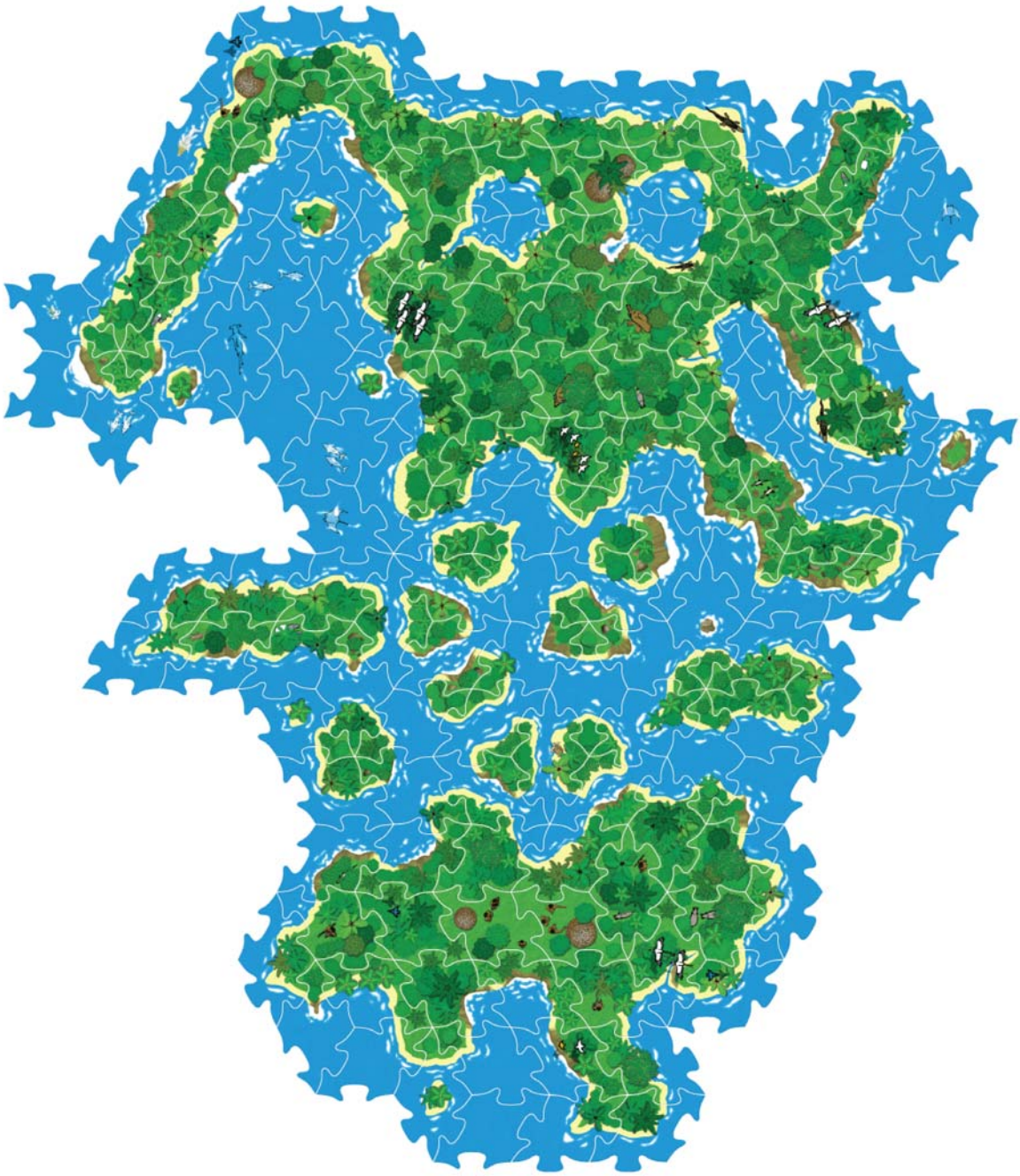
11 Archipelago Challenge

Puzzle Solution:

One example of many:



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12

Birds of a Feather

Puzzle Goal:

To entertain!

Materials:

Honduras Rosewood, Curly Maple, Sterling Silver. Associated stand is Nogal

Classification: Put together, jigsaw

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12 Birds of a Feather

Puzzle Solution:

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13 Loris

Puzzle Goal:

Open the box by sliding the lid.

Important: No banging or rapping! Treat the box gently.

Materials:

Velstone

Classification: Take Apart, Secret opening box

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13 Loris

Puzzle Solution:

Place the box on end, black button down, and leave it in this position for a minute. Then place it with lid up on a level surface and slide the lid open.

To relock, place the box on end, button end up, and leave it in this position for a minute. Store it on end, button up.

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14

C1QB

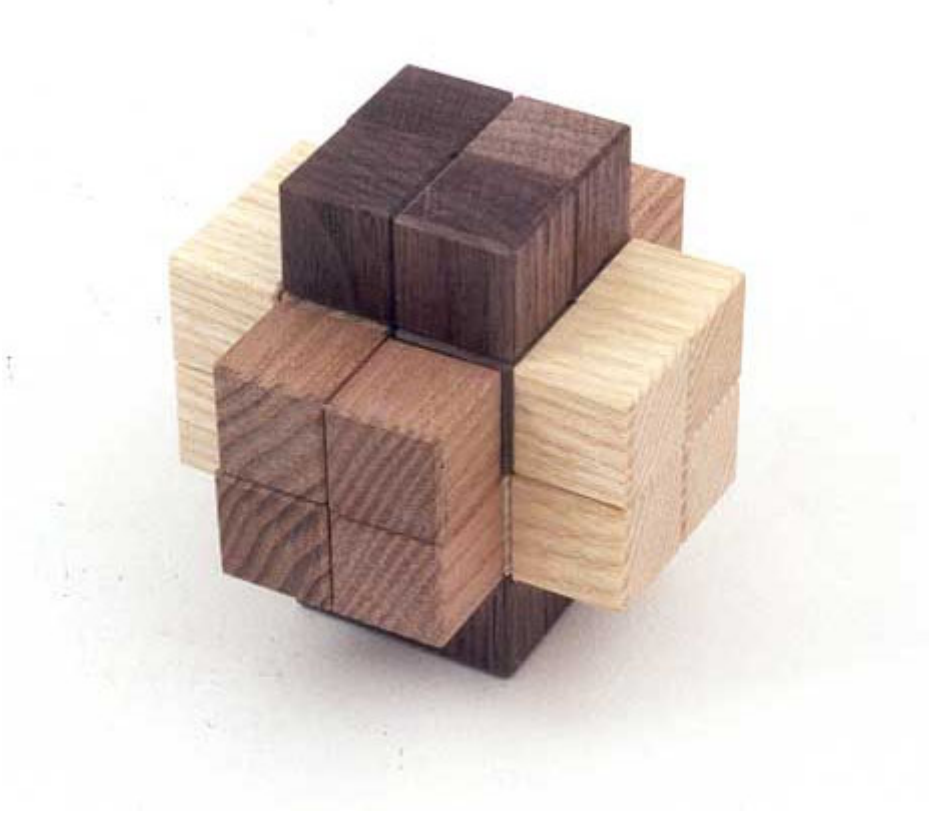
Puzzle Goal:

Take the puzzle apart in its 4 pieces and reassemble the puzzle.

Materials:

Ash, elm, baltic nut

Classification: Take-Apart (Interlocking)



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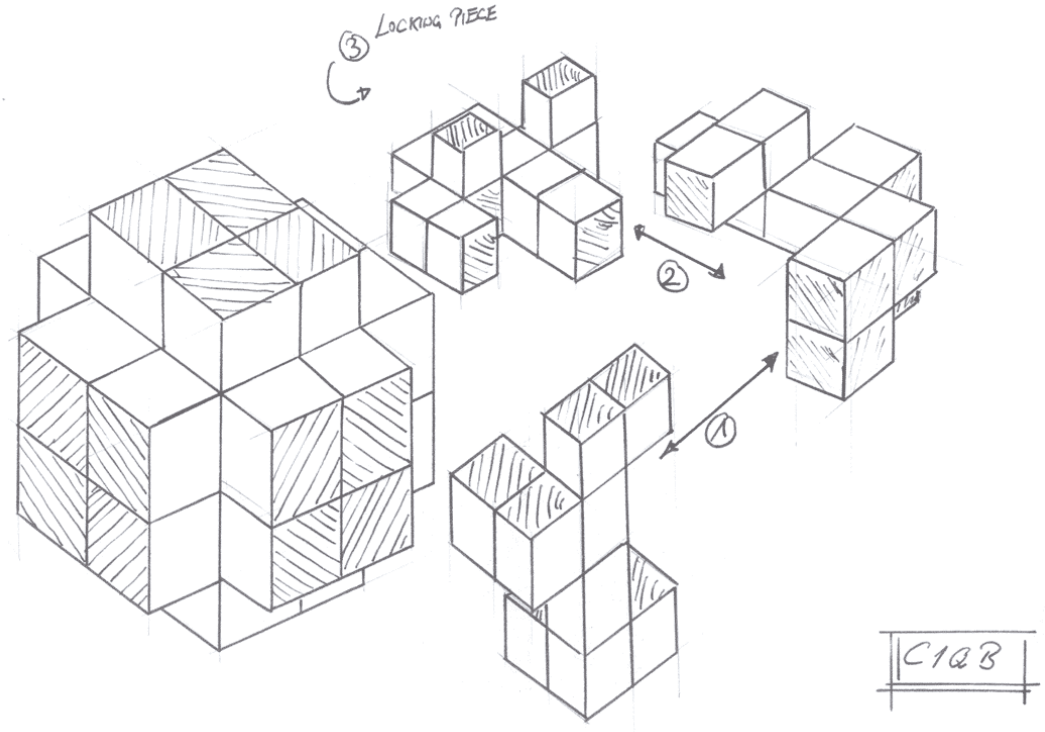
14

C1QB

Puzzle Solution:



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15 Kringloop

Puzzle Goal:

Fill the box by assembling into the correct pattern

Materials:

Wood

Classification: Put Together

Notes:

The puzzle is named after a drawing of M.C. Escher (in English: "Cycle"). The roof drawn on "Kringloop" has the same arrangements of the cubes. With the two different woods, this pattern is nicely emphasized.

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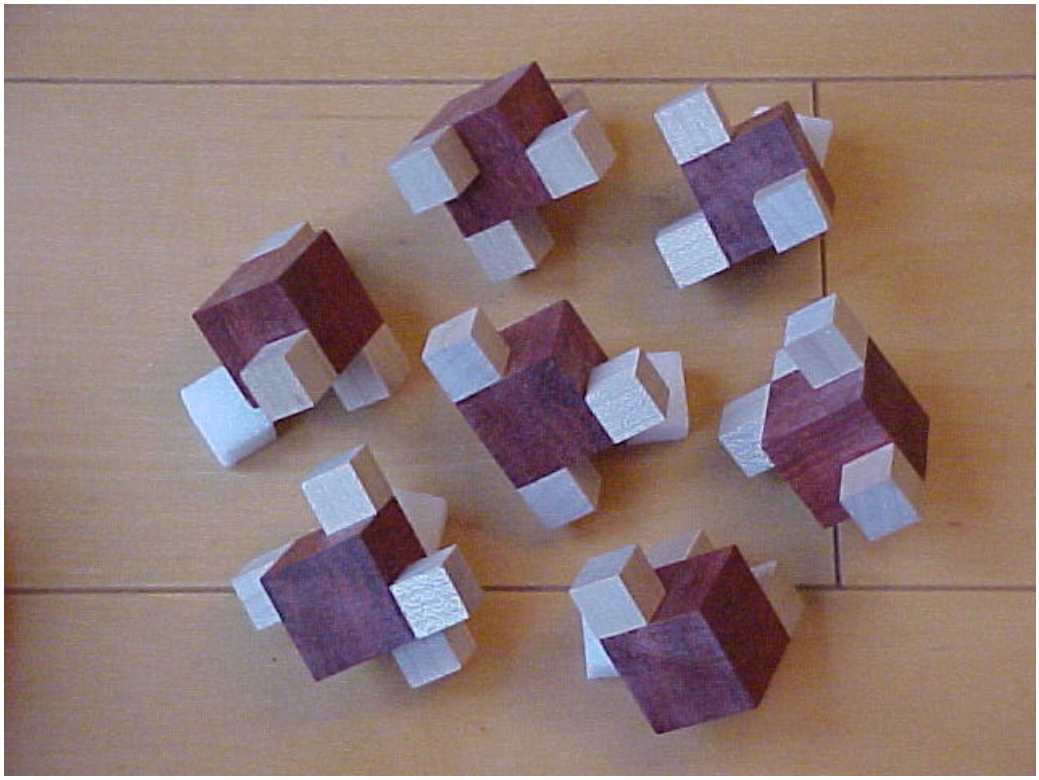
15 Kringloop

Puzzle Solution:

Solving the puzzle requires two achievments.

First, one has to recognise that the parts will not fit in the box in an orthogonal way, but they have to be placed diagonally. Once, the puzzler has seen this, the diagonal assembling is still very confusing.

Then, the second task starts which is real puzzle work. With only seven pieces it is amazingly difficult to put them together in a way that they fit into the hexagon box.



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16 Casino Royale

Puzzle Goal:

Fold to make a 3x2x2 block, without stretching or twisting the tape.

Materials:

Casino dice, Polypropylene packing tape

Classification: Folding

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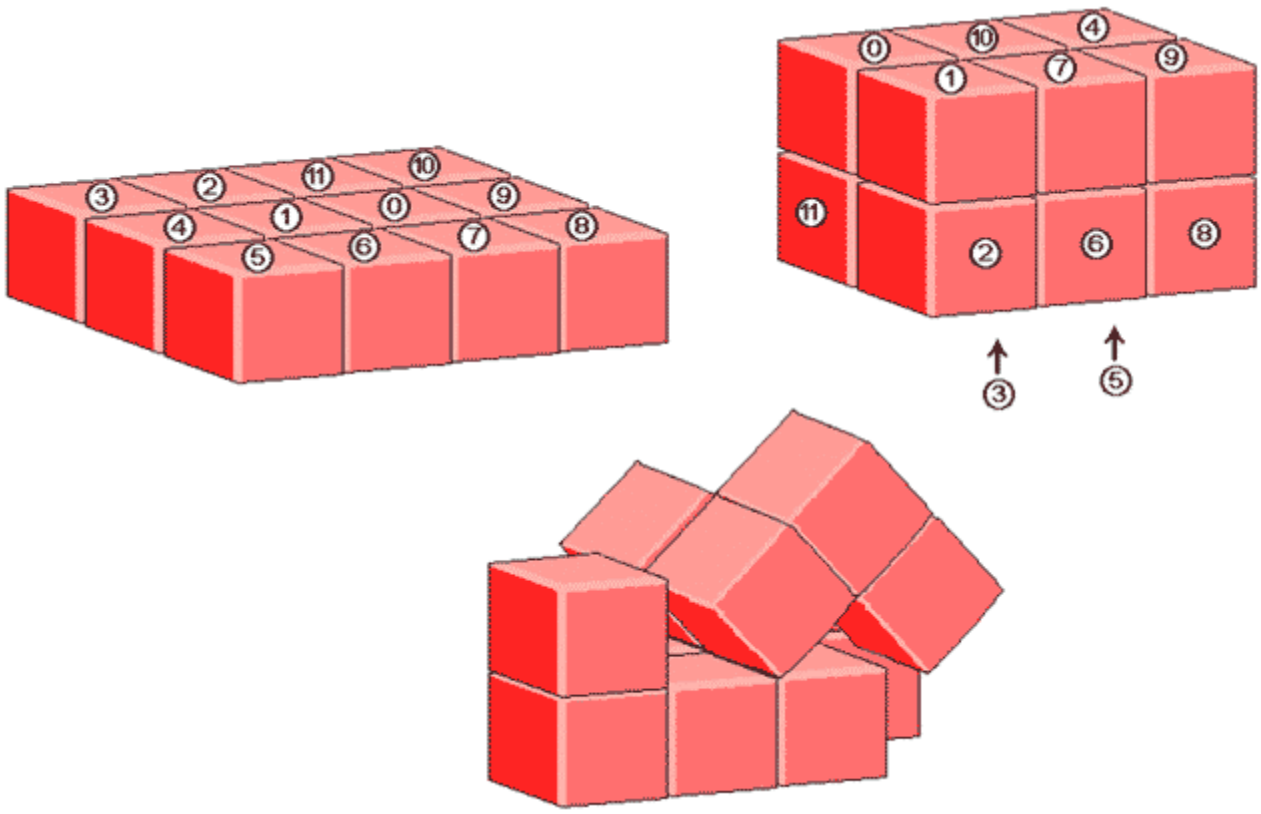
16 Casino Royale

Puzzle Solution:



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17

The Chicago Cubes

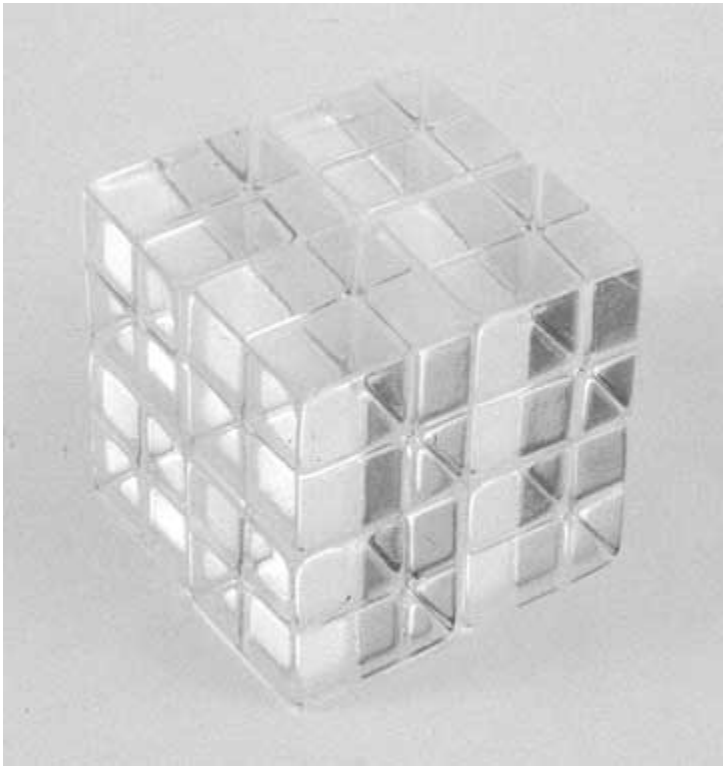
Puzzle Goal:

Fold to make a 2x2x2 cube, without stretching or twisting the tape

Materials:

Acrylic cubes, Polypropylene packing tape

Classification: Folding



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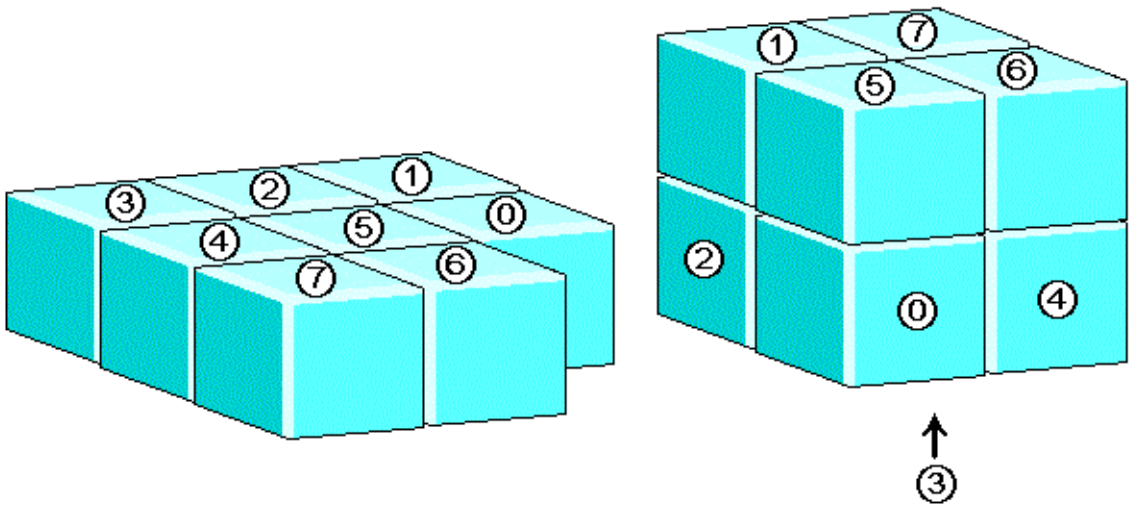
17 The Chicago Cubes

Puzzle Solution:



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18 Six-Hand Burr

Puzzle Goal:

Take apart the six-piece burr.

Self-assembly will occur automatically if the pieces are correctly oriented. Alternatively you can reassemble the pieces differently so that the puzzle will automatically self-disassemble after the first move.

Materials:

Walnut

Classification: Burr puzzle; INT-CART

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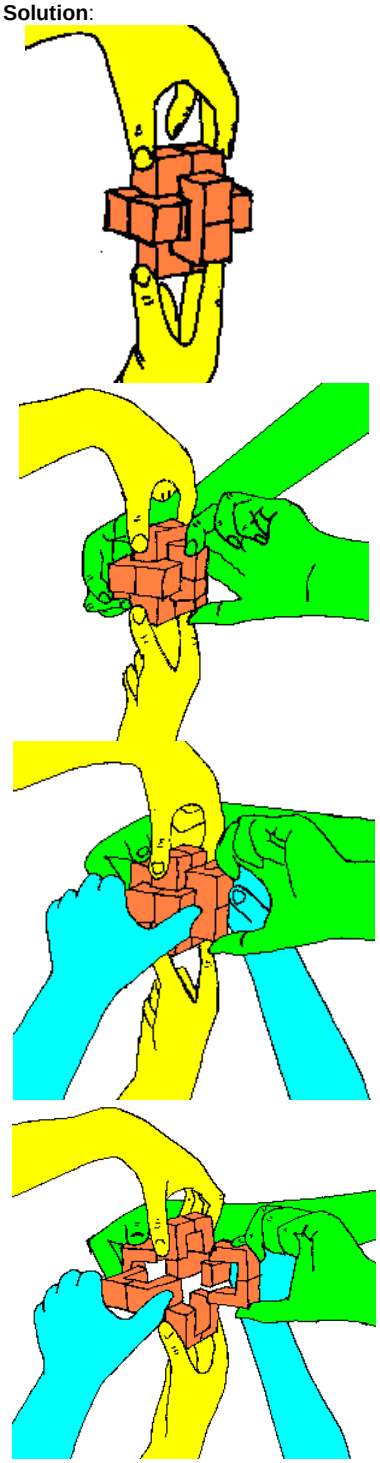
18 Six-Hand Burr

Puzzle Solution:



To take apart:

- First obtain the assistance of two other puzzlers.
- Then pull apart as shown in figures 1 to 4.

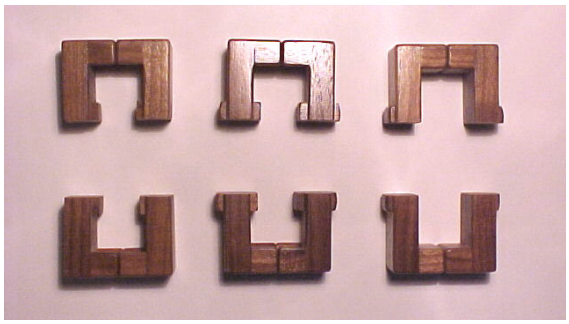
To assemble:

- First obtain the assistance of two other puzzlers.
- Identify the pieces as shown in the photo below.
- Separate pair A and insert pair B.
- Keeping pairs A and B separated, insert pair C.
- The puzzle will then automatically self-assemble.

To assemble so that the puzzle will automatically self-disassemble after the first move, insert pairs B and C with the magnets opposing rather than attracting.

When storing the puzzle, ensure that the magnets are attracting. Opposing magnets will quickly loose their magnetism.

A **B** **C**



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19

Toccata

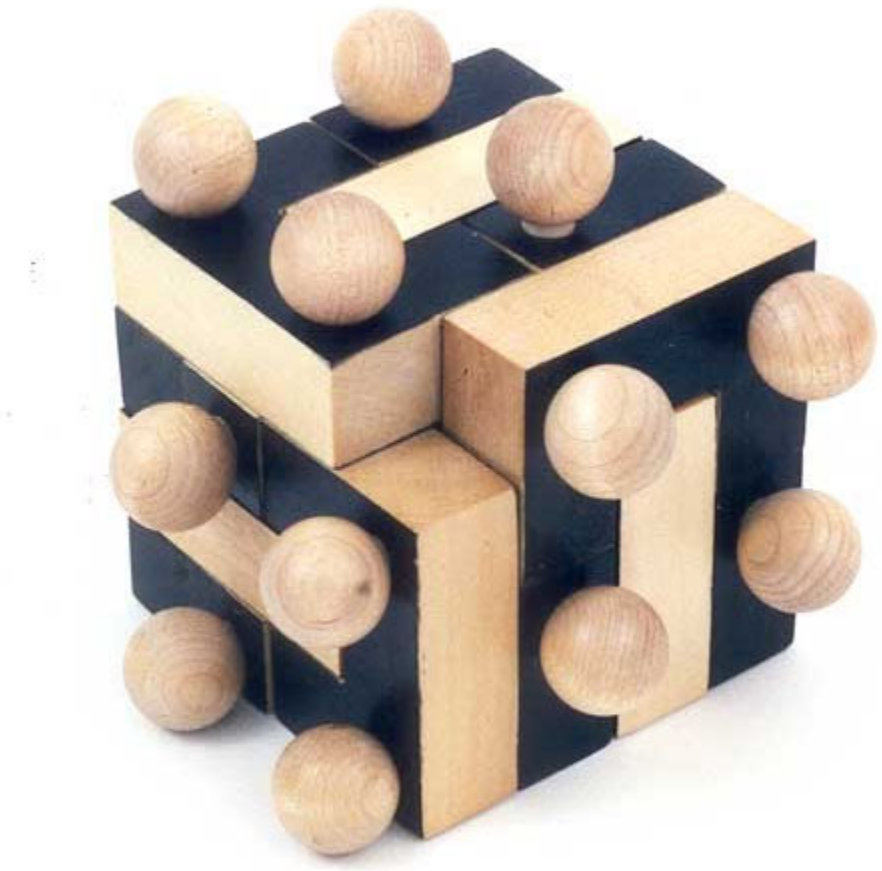
Puzzle Goal:

The object of the puzzle is to assemble the pieces into a size-4 cube in such a way as to align holes through the pieces to allow the introduction of rods (two different diameters) through the cube.

Materials:

painted wood

Classification: Put together



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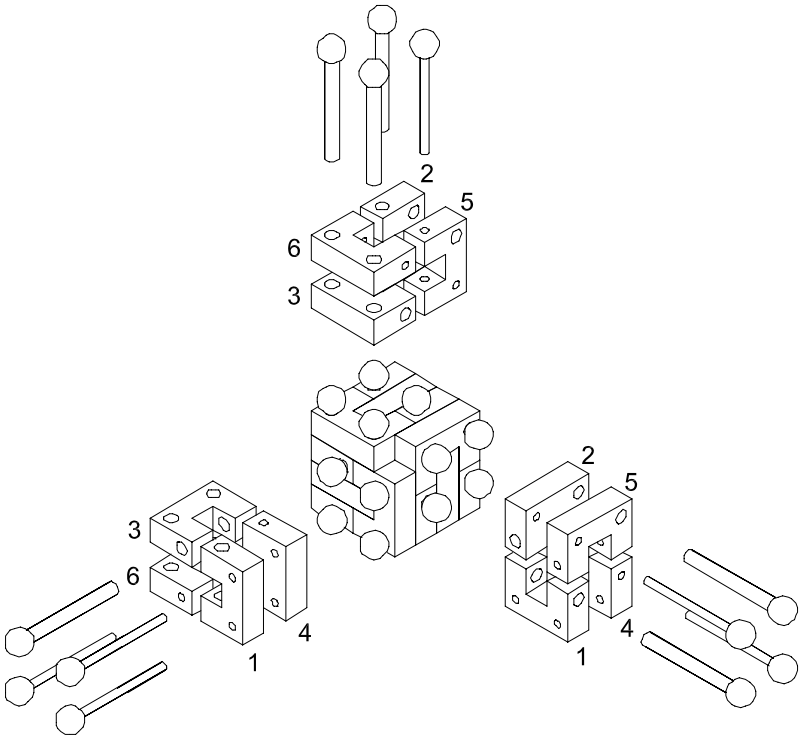
19

Toccata

Puzzle Solution:

This is an exploded view of the Toccata demonstrating the solution.



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20 The Devil's Half "Doven"

Puzzle Goal:

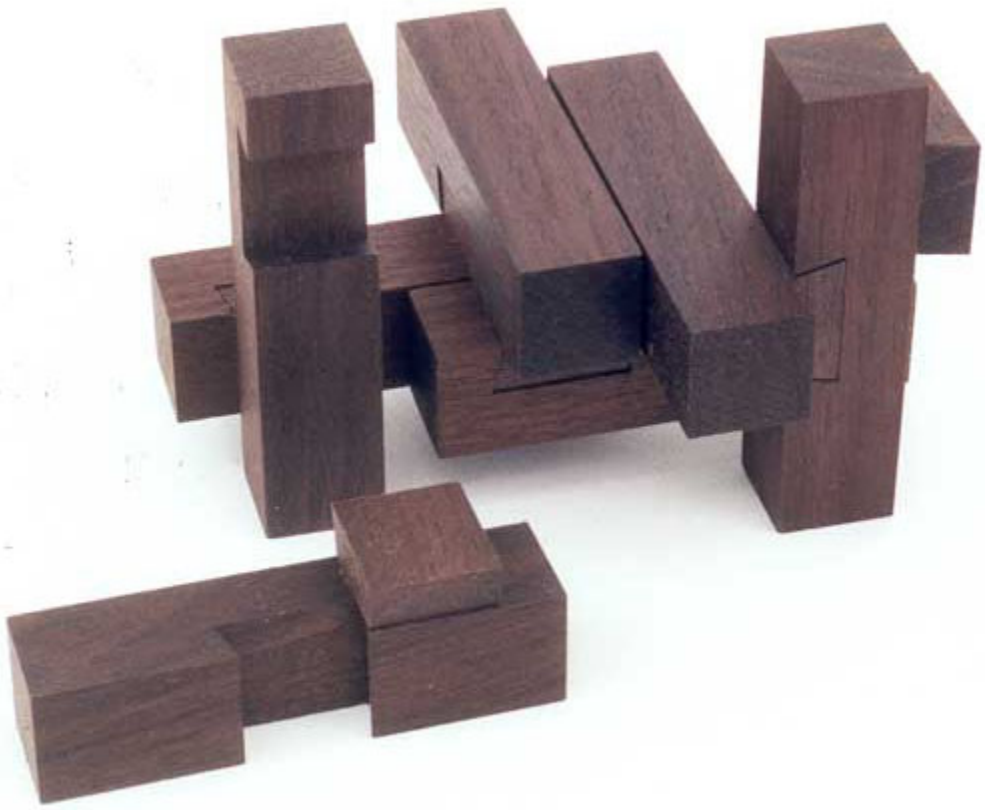
Assemble the seven pieces such that every dovetail tab is fitted into a dovetail notch. Note that pieces will always be at right angles to each other when a tab is properly fitted into a notch.

There are four distinct solutions, of which two will "stand on one foot".

Materials:

Walnut

Classification: Interlocking



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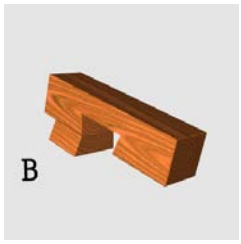
20 The Devil's Half "Doven"

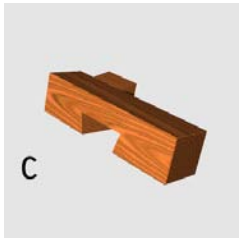
Puzzle Solution:

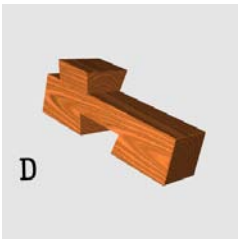
Solution #1: (preferred standing solution):

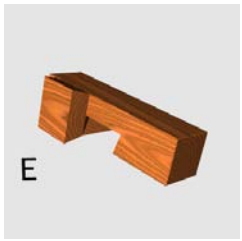
- **Hold E horizontally with its tab facing you and its notch open upwards.**
- **Insert C's tab into E's notch with C's notch open to the left.**
- **Insert H's tab into C's notch with H's notch open away from you.**
- **Insert K's tab into H's notch with K's notch to the right of its tab.**
- **Insert D's tab into K's notch; D's notch will be below its tab.**
- **As a separate unit, hold B horizontally with its tab facing away from you and with its tab to the left of its notch.**
- **Insert I's tab into B's notch with I's notch above its tab.**
- **Slide the B+I unit onto the bigger unit from the right.**

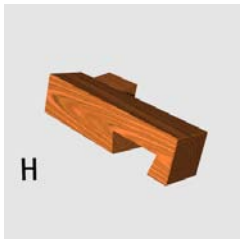
The assembly will balance well on the end of D, as shown in the picture.

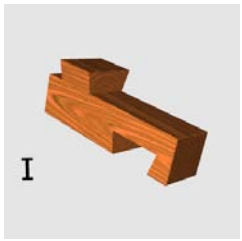


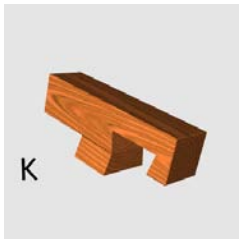


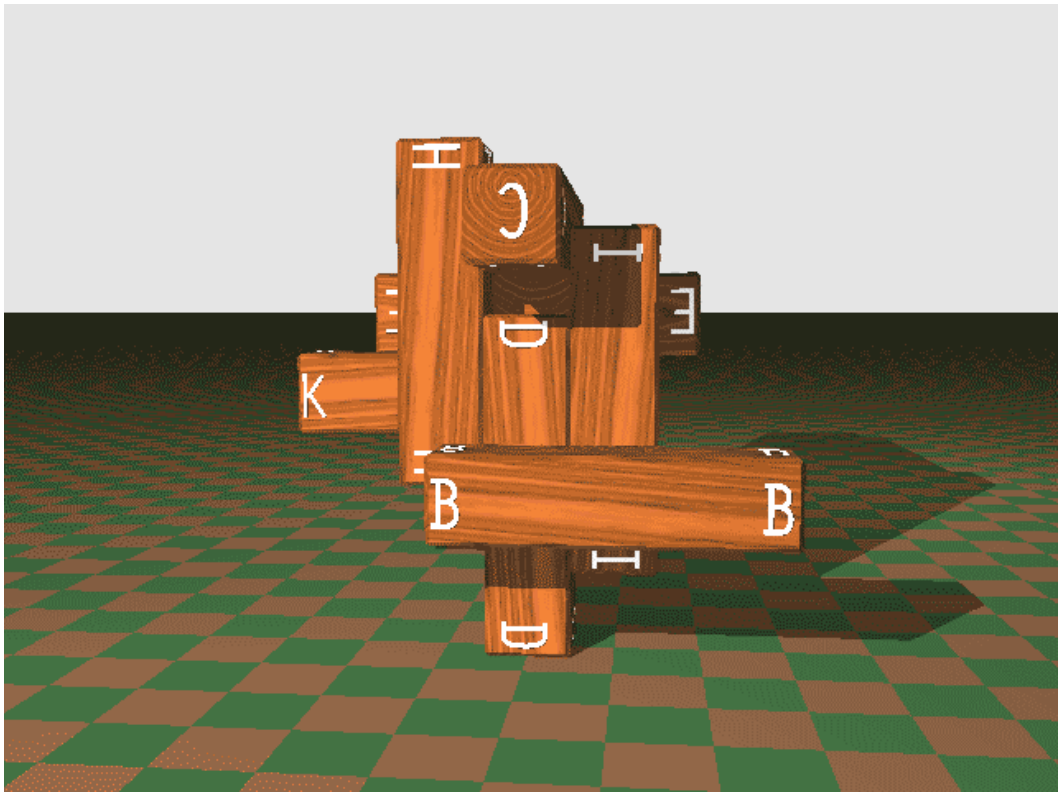












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21 30-60-90 Triangle Puzzle

Puzzle Goal:

Goal 1 – Make a 30-60-90 triangle with all 10 pieces

Goal 2 – Put the puzzle away in the rectangular tray.

Materials:

Walnut

Classification: Put-together

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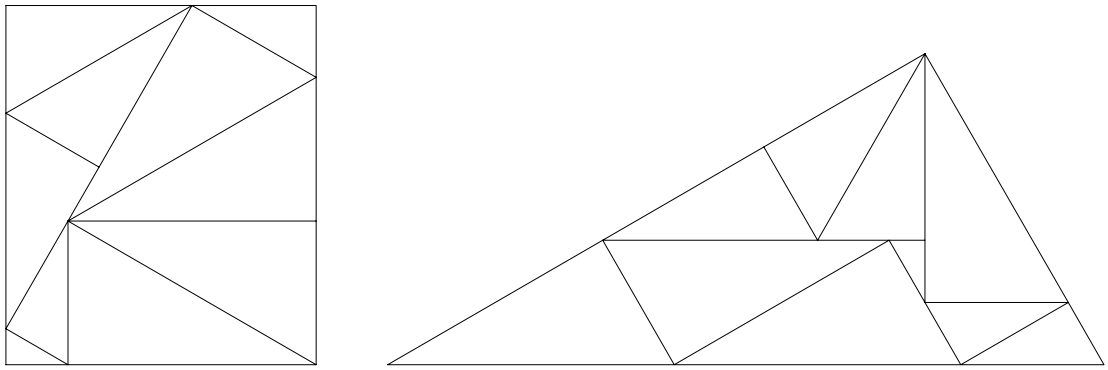
21 30-60-90 Triangle Puzzle

Puzzle Solution:



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22 Salt & Pepper Shakers

Puzzle Goal:

Open both shakers and find the salt and pepper

Materials:

Red Oak and Walnut

Classification: Secret Opening Boxes

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22 Salt & Pepper Shakers

Puzzle Solution:

TIPS: You will need both **Salt and Pepper Shakers** to open either.
Be prepared to catch small parts from the shaker bodies in some container.

DISASSEMBLY:

1. **Remove Pepper Shaker (PS) Bottom** (PS has dark body and 1 hole on top):
Invert PS and tap it on your palm. Slide the bottom of the PS (now on top) off and dump the 1.62" pin out.

2. **Remove Salt Shaker (SS) Bottom** (Salt Shaker has light body and 5 holes on top):
Insert the 1.62" pin from step #1 into the deepest hole in the SS top. Press it down as you slide the SS bottom off. The 1.62" pin, a 1" pin, and a thick pin will drop out of the SS body.

3. **Remove Pepper Shaker Top:**
Insert 1" pin into the center hole of the SS top. Insert the other end of that pin into the center hole of the inverted PS, putting the two Shakers flush together. Slowly rotate the PS about the pivot pin, until you hear the locking pin drop. Lift the PS, remove the 1" pin, and slide the PS top off. A 1.25" pin will drop out.

4. **Remove Salt Shaker Top:**
Invert the SS and insert the 1.62" pin and the 1.25" pin into the small off-center hole. Press on the pin and slide off the SS top. Inside you will find your salt and pepper!!

REASSEMBLY:

TIP: The pins fit into holes that closely match the pin length and diameter.

1. **Replace Salt Shaker Top:**
Replace the salt and pepper packets in the large holes. Depress the spring lock on the SS top and slide it onto the SS body.

2. **Replace Pepper Shaker Top:**
Insert the 1.25" pin into the small, off-center hole in the top end of the PS body.
Reinsert the small thick pin into the PS top, if it has fallen out. Holding the PS body and top horizontally, slide them together. Stand the PS upright.
Insert the 1" pin into the center hole on the PS top, and the opposite end of that pin into the center hole in the top of the inverted SS. Rotate the SS until you feel the magnets attract, then rotate about ½ turn more. Separate the shakers.

3. **Replace Salt Shaker Bottom:**
Insert the 1" pin into the center hole on the bottom of the SS body. Insert the long thick pin into the large diameter hole of the SS body. Depress the spring lock on the bottom and slide it back onto the SS body.

4. **Replace Pepper Shaker Bottom:**
Insert the 1.62" pin into the off-center hole on the bottom of the PS body. Slide the PS bottom onto the PS body, then invert the puzzle to secure the magnet lock..

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23 The 3 Chains Ring Puzzle

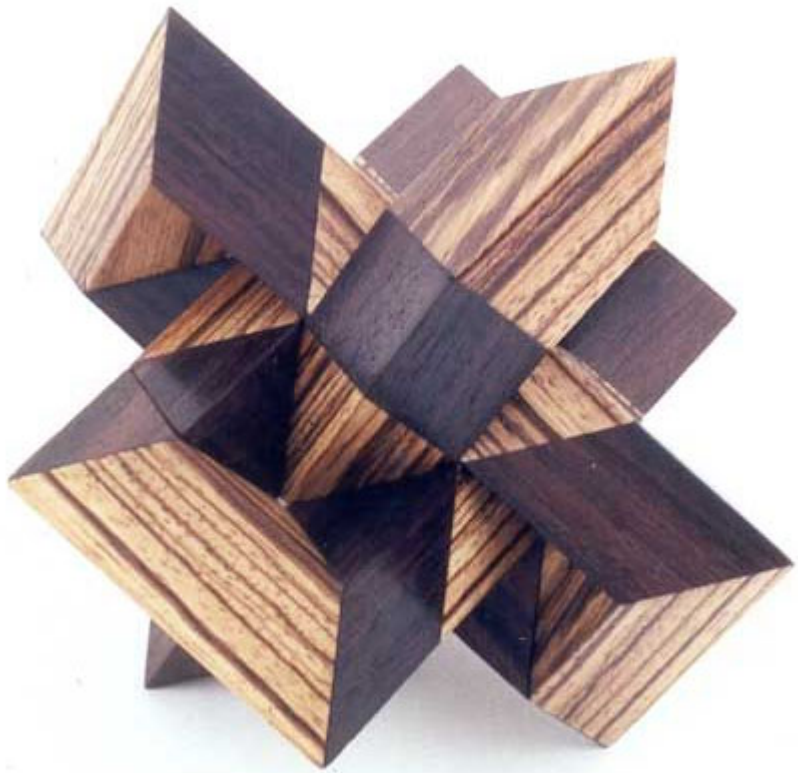
Puzzle Goal:

Place the pieces in such way to make 3 chain rings joined with a common center point.

Materials:

Zebrawood and pallisander rosewood

Classification: Interlocking



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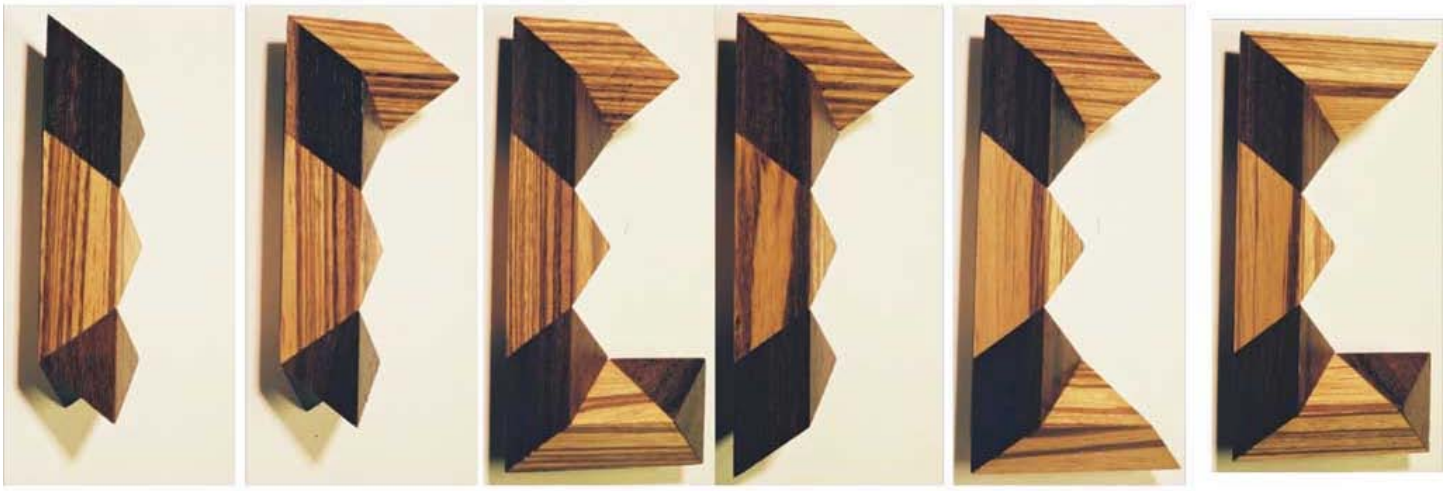
23 The 3 Chains Ring Puzzle

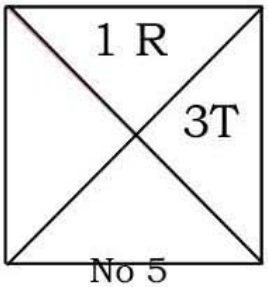
Puzzle Solution:

The 3 Chains Ring Puzzle solution and pieces

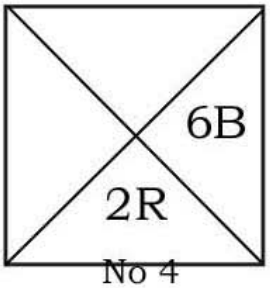


No 1 No 2 No 3 No 4 No 5 No 6

By facing a piece, you will see in the centre this square. The number refers to the piece and the letter stands for the sides you will much. Now according to the 4 triangles you see in the square, the top is letter T, the right one is letter R, the bottom is B. So take No 5 and turn it so it faces you. Much now the No 1 piece right triangle on the top triangle of No 5.Folow the same way to the rest until you make 2 halves. One halve involves No 1-3-5,and the other halve No 2-4-6. Now join them together by finding the correct sliding axis.



No 5



No 4

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24 Livecube 5x5x5-1

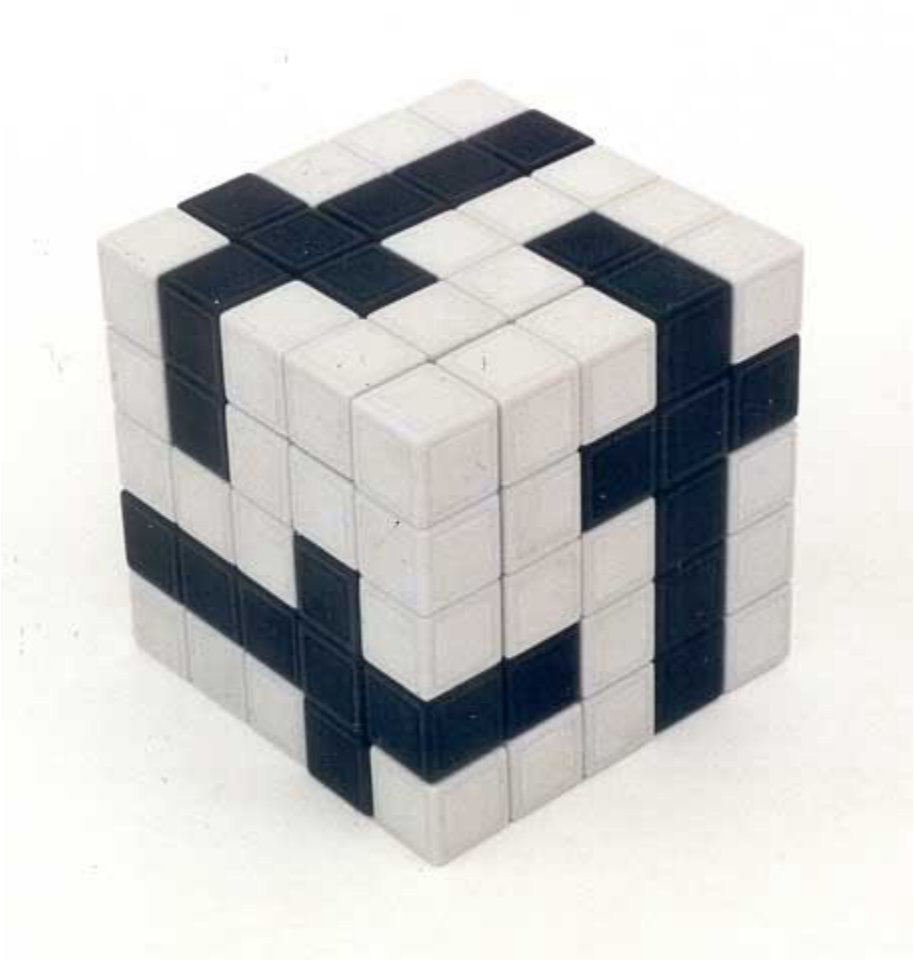
Puzzle Goal:

The goal is to build a 5x5x5 cube.

Materials:

ABS & TPR plastic material

Classification: Put Together and Interlocking



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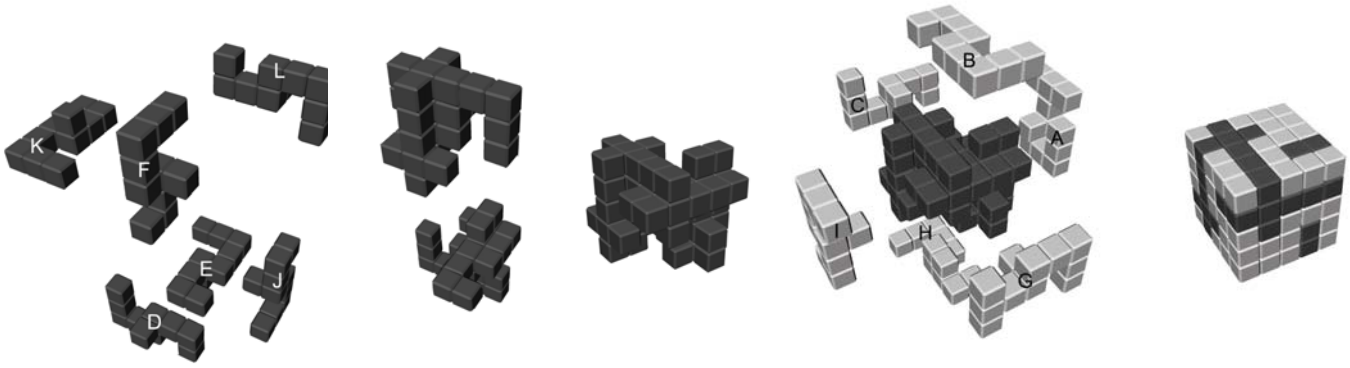
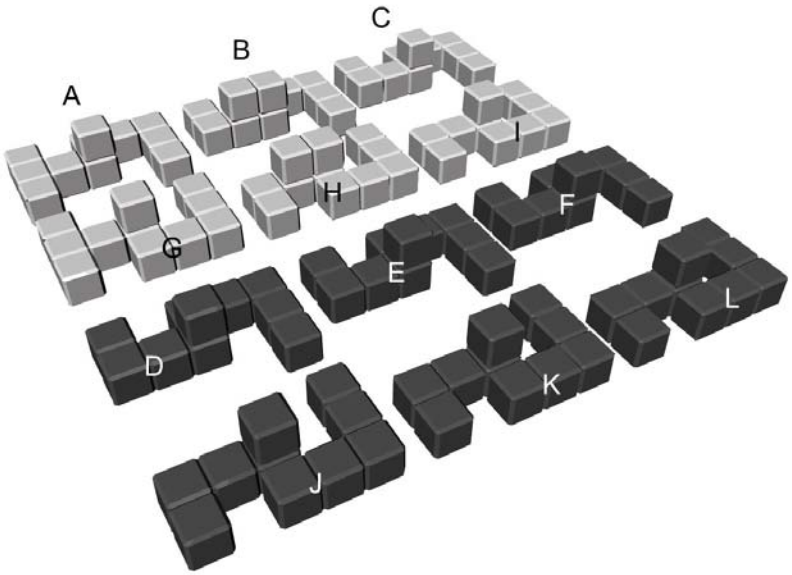
24 Livecube 5x5x5-1

Puzzle Solution:





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25

Livecube Puzzling Toy

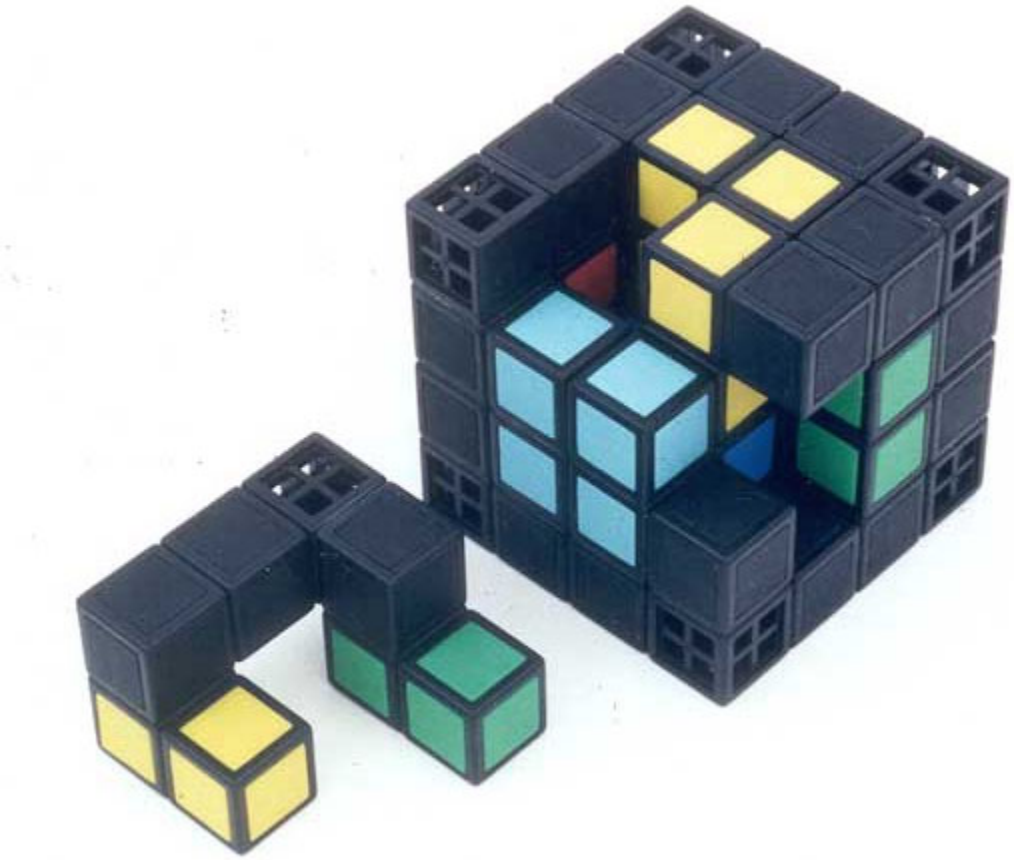
Puzzle Goal:

To build a 4x4x4 cube with eight pieces.

Materials:

ABS & TPR plastic material

Classification: Put Together, Take Apart



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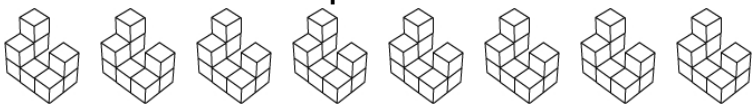
25 Livecube Puzzling Toy

Puzzle Solution:

(1) Eight identical Octominoes shapes will be scrambled.



(2) Each shape will be paired up with another shape to produce larger identical shapes. This step can be repeated until a solid 4x4x4 cube is formed. (Fig. 1)
(3) The puzzle can separate into halves along it's x, y, or z axis. (Fig. 2)
(4) The puzzle will rotate either 90 or 180 degrees (depending on the axis on which the separation occurred)
(5) After rotation, the halves can be joined in the same manner in which it was separated.
(6) Steps 3-5 are repeated until a solution is achieved (unique, solid colors on each side)

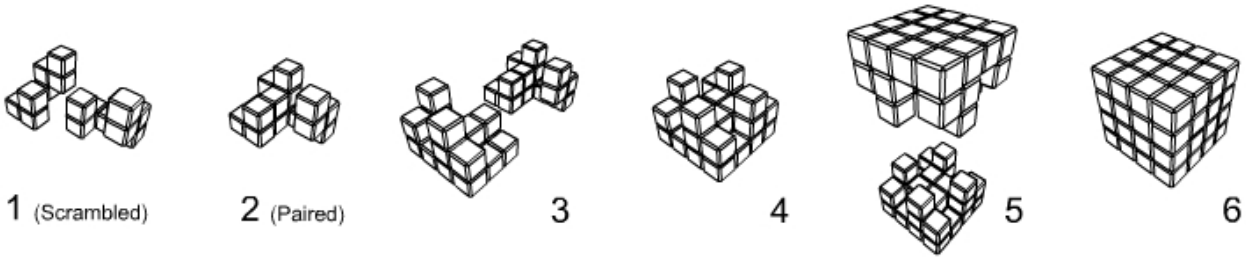


Fig.1

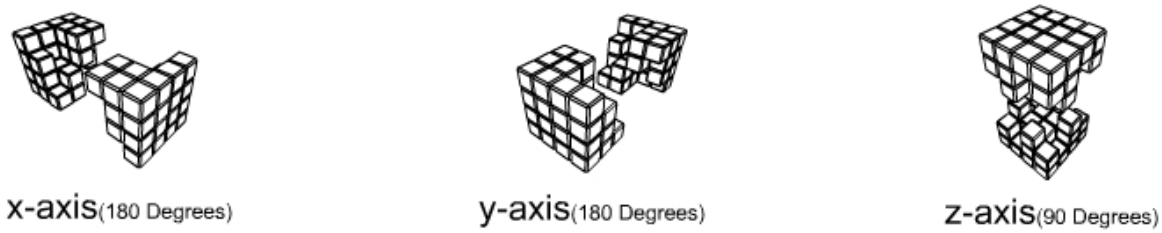


Fig.2

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26 CUBE in CAGE 333

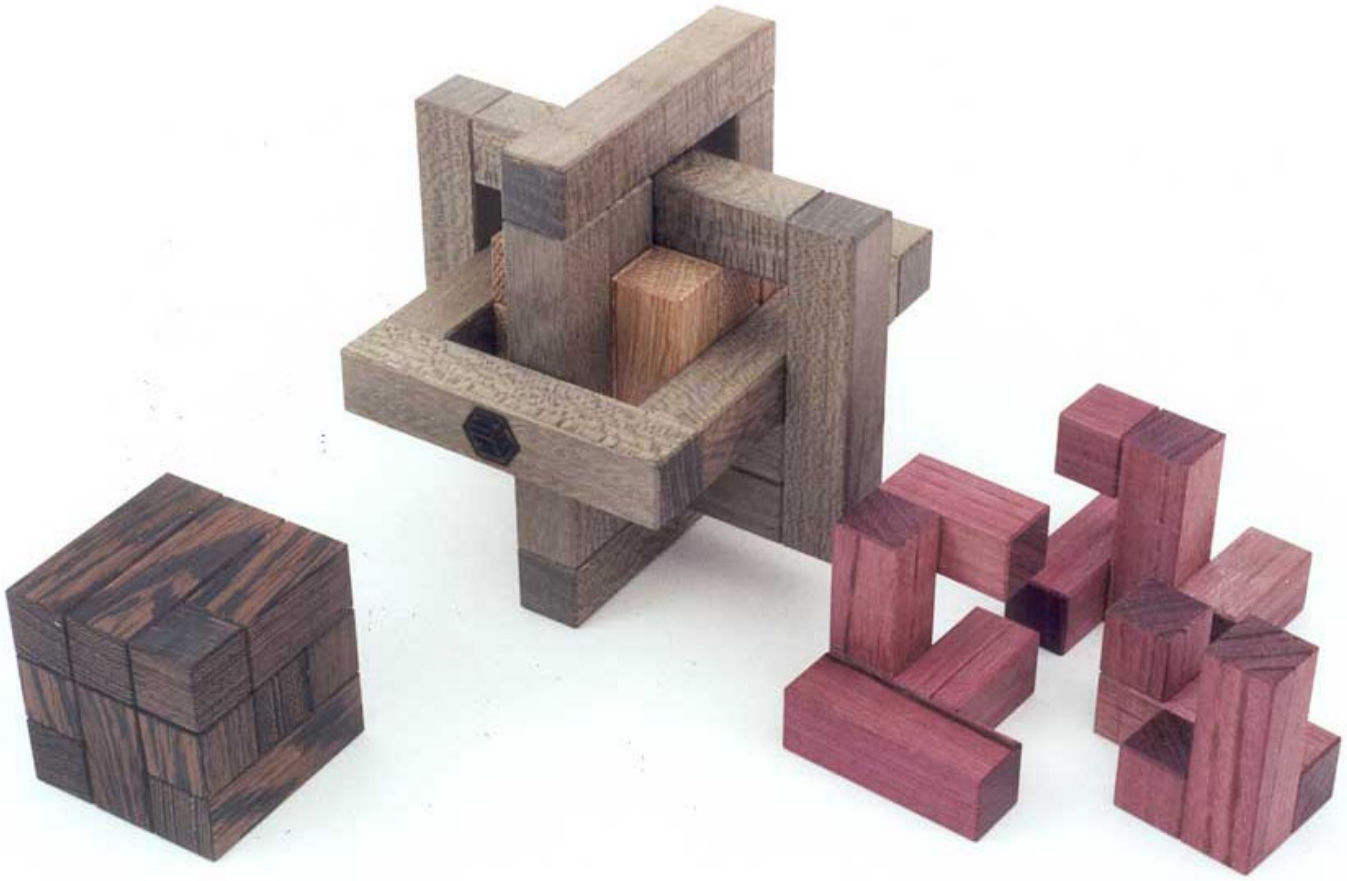
Puzzle Goal:

Put 3 pieces together into a CUBE(3x3x3) inside the CAGE, whose frames slide back and forth, right and left, and up and down. Each CUBE has a different secret.

Materials:

Tamo Jindai, Japanese Oak, Purple, Wenge

Classification: KUMIKI



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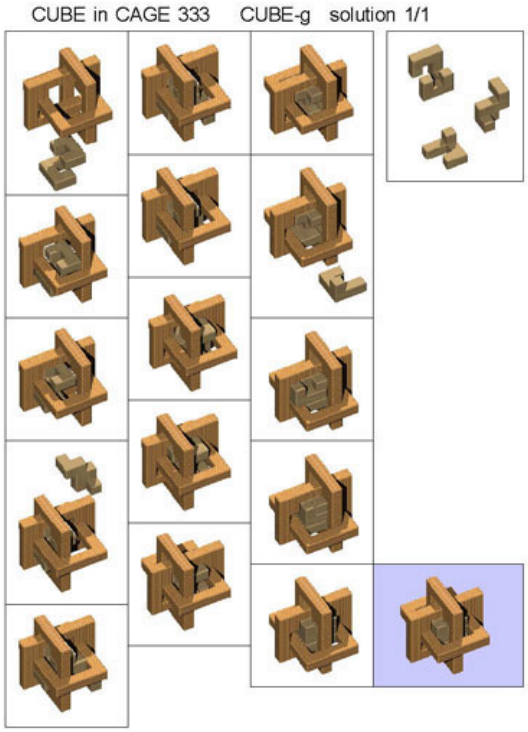
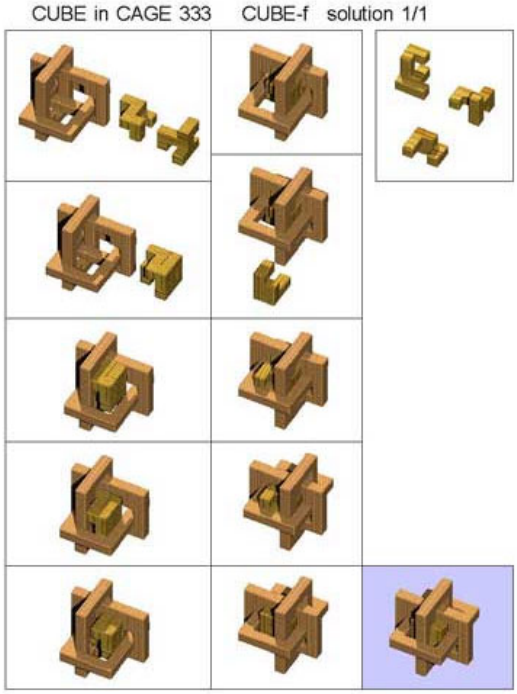
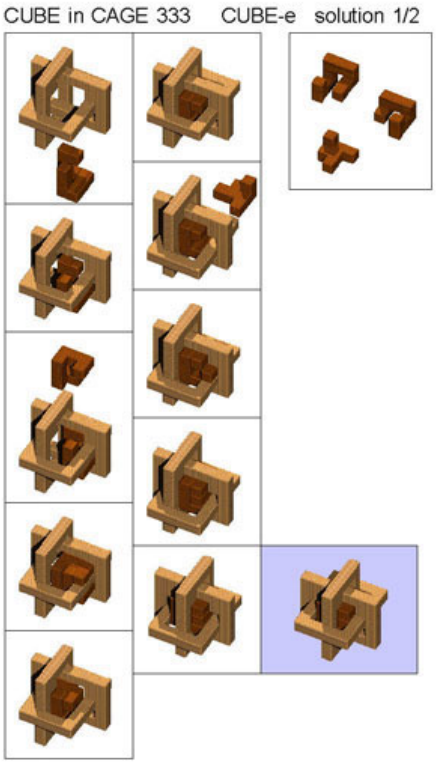
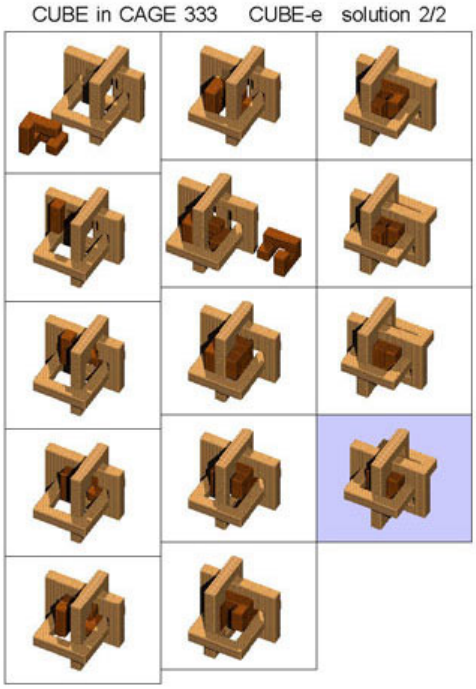
26 CUBE in CAGE 333

Puzzle Solution:









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27 Clutch Box

Puzzle Goal:

Open the box

Materials:

wood (koa, maple, ebony, cocobolo, new guinea rosewood) and metal (brass, copper, steel)

Classification: Secret Opening Box

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27 Clutch Box

Puzzle Solution:

The first step is to open the four rocker locks. push on the outer edges of the triangular inlay chips on the front and back of the box.

Next push the center of the box up, and then close the rocker locks again to hold the box in this extended position.

Find the front of the box by counting the number of horizontal layers visible -- the front of the box will have four layers visible (as seen in the picture) whereas the other sides only have three layers visible.

Now move the top panel to the front right corner. holding the panel in this position, tilt the box backwards (lifting the front up slightly) and then roll it in a clockwise manner one full rotation. think of a ball inside the box, you want to roll it towards the back left corner, then the back right corner, then the front right corner, then the front left corner, then return to the back left corner. keep in mind that the panel stays in the front right corner the whole time.

Now to open the box, push the panel to the left. the lid is spring loaded, so once you have unlocked it, the lid will rise slightly to let you know that you've solved the puzzle.

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28 Hexagon Kinato

Puzzle Goal:

Dot Game - match up the color dots in the same colors

Route Game - link up all the routes

Mathematical Game - the sum of the six numbers in each of the three main diagonals is equal to nine. (side with "equal to 9" in the center is not a puzzle)

Materials:

Plastic--ABS

Classification: Hexagon Puzzle

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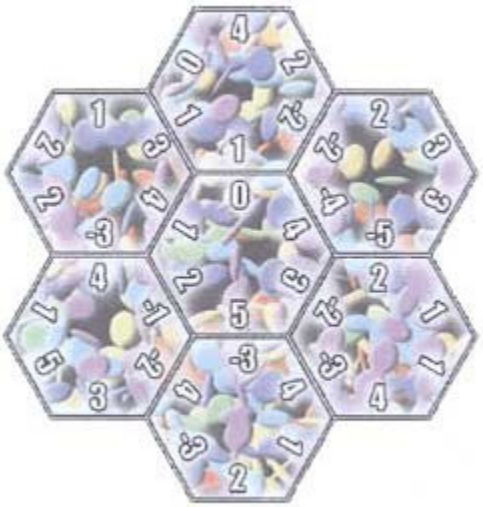
28 Hexagon Kinato

Puzzle Solution:



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29

T-Kinato

Puzzle Goal:

Reconstruct the photo.

Materials:

Plastic--ABS

Classification: Hexagon Puzzle

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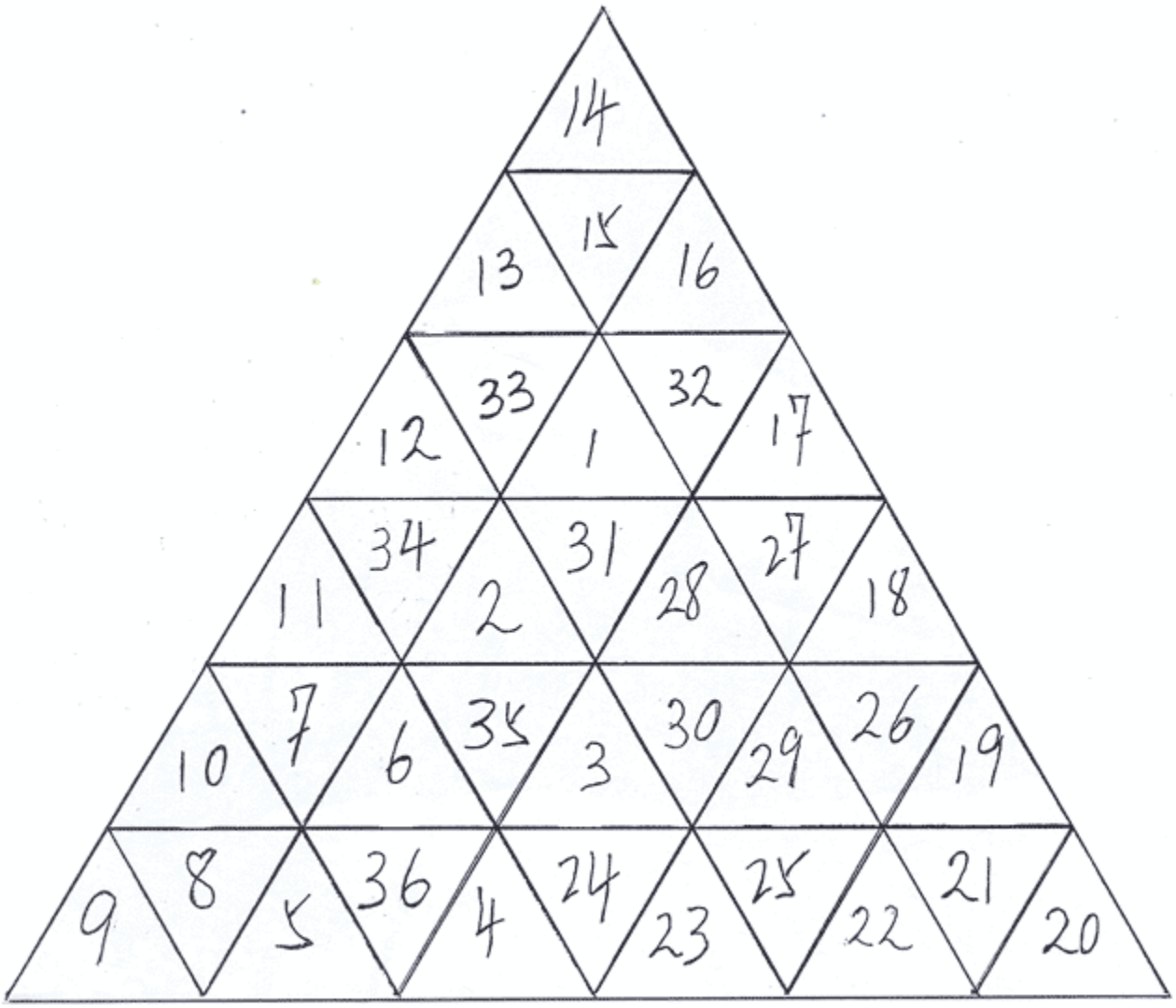
29 T-Kinato

Puzzle Solution:

Left-right reflection of solution:



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30 Magician's Tophat and Magic Wand

Puzzle Goal:

Pull a bunny from a magic hat

Trying to open the puzzle using centrifugal force (spinning the puzzle on the hat's brim) will damage the puzzle do to the force and speed in takes to move the pins. In fact, on the prototype the puzzle broke, before it opened. On this puzzle brawn is not the answer.

Materials:

Oak, Walnut, metal and wooden pins, ball bearing, screws, Tee nut and rare earth magnets

Classification: Secret Opening

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30 Magician's Tophat and Magic Wand

Puzzle Solution:

1. **Rotate puzzle so the bow is facing away from you.**
2. **Tilt the puzzle's top towards you.**
3. **Tap the bottom of puzzle firmly. *Note: picture shows side view for demonstration purposes only.**
4. **Stand puzzle back up, with bow still facing away from you.**
5. **Tilt puzzle to the right**
6. **Remove magic wand**
7. **Set hat upright with bow facing away from you.**
8. **Twist end of magic wand and unscrew.**
9. **Place two wand pieces on top of hat in these exact positions**
10. **While holding the two wand pieces in place, tip hat upside down.**
11. **Tip hat upright**
12. **With hat bow still facing away from you, slide brim of hat away from you. *Side view shown for clarification of pieces that will move**
13. **Pull the RABBIT from the Magicians Hat!**

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31 St Mungo's Fish

Puzzle Goal:

To get the ring in the fish's mouth.

Materials:

Cast Bronze

Classification: Route Finding

History:

This cast bronze puzzle was inspired by a Victorian puzzle found, incomplete, in a collection of buttons in 1981. As far as is known, it is the only surviving example found to date. The original was made of very thin and flimsy material which made it exceptionally easy to cheat by mistake; however it did incorporate an excellent original idea. The designer has enlarged and thickened it, totally redesigned its appearance, and, by altering the proportions, added some extra deceits.

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31 St Mungo's Fish

Puzzle Solution:

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32 Shrinking Box

Puzzle Goal:

Open the box

Materials:

Walnut, magnolia, etc.

Classification: Secret Opening Box

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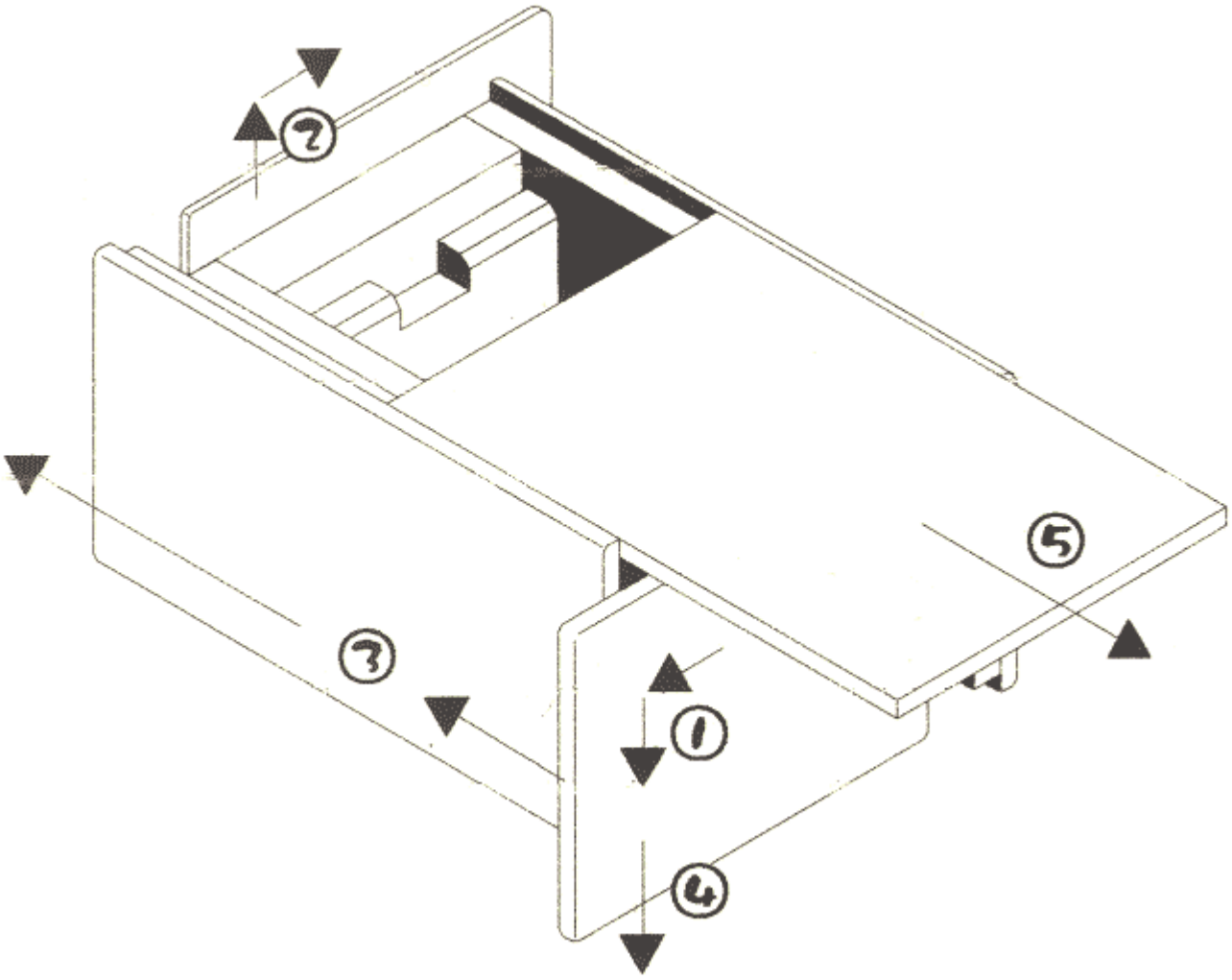
32 Shrinking Box

Puzzle Solution:



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33

Arabesque

Puzzle Goal:

Disassemble and reassemble

Materials:

Padauk, Zebrano and Black Walnut woods

Classification: Interlocking

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33 Arabesque

Puzzle Solution:

Arabesque is composed of two halves which slide together to form the puzzle. We strongly suggest that the sticks be marked using removable labels before starting assembly.

Assembly #1:

Step 1: Hold **C4** side to side with the large notch on the flat side facing towards you, the large full notch facing upwards, and the small middle notch facing down.

Step 2: Hold **B2** front to back with the large deep notch facing right and the smaller shallow notch facing upwards. Place **B2** into **C4**'s notch that faces upwards. Slide **B2** towards you.

Step 3: Hold **C3** side to side with the large shallow notch facing towards you, the deep notch facing away from you, and the small shallow notch facing upwards. Place **C3** directly on top of **C4**.

Step 4: Hold **B1** front to back with the one notch facing down. Place **B1** over **C3** and **B2**

Step 5: Hold **A1** vertically with the large shallow notch facing away from you, the large deep notch facing right, and the small deep notch facing left. Slide **B2** into **A1**'s small notch, then push **A1** away from you until it interlocks with the rest of the assembly.

Step 6: Hold **A2** vertically with the notch facing towards you, the irregular end of the notch on the lower side. Place **A2** behind **R3/R4** on the right side of **A1/B5**.

Set assembly #1 aside. Assembly #2:

Step 7: Hold **B3** front to back with the large deep notch facing left, the notch on the flat side facing down, and the small deep notch facing right.

Step 8: Hold **A4** vertically with the large deep notch facing left and the notch on the flat side facing away from you. Slide **A4** into **B3**'s small notch.

Step 9: Hold **C2** side to side with the large deep notch facing away from you and the notch on the flat side facing down. Place **C2** under **B3** in front of **A4**. Slide **C2** to the left as far as it will go.

Step 10: Hold **B4** front to back with the one notch facing upwards and the appendage facing away from you. Place **B4** under **C2**. Slide **B4** to the right until it interlocks with **A4**.

Step 11: Hold **A3** vertically with the large shallow notch in the upper position facing away from you. The deep narrow notch should be facing towards you. Slide **A3**'s small notch into **C2**'s remaining notch on the left side of **A4**, **B3**, and **B4**.

Step 12: Hold **C1** side to side with the large notch on the flat side facing towards you and the deep notch facing down. Slide **C1** behind **A3** and **A4** over **B3**.

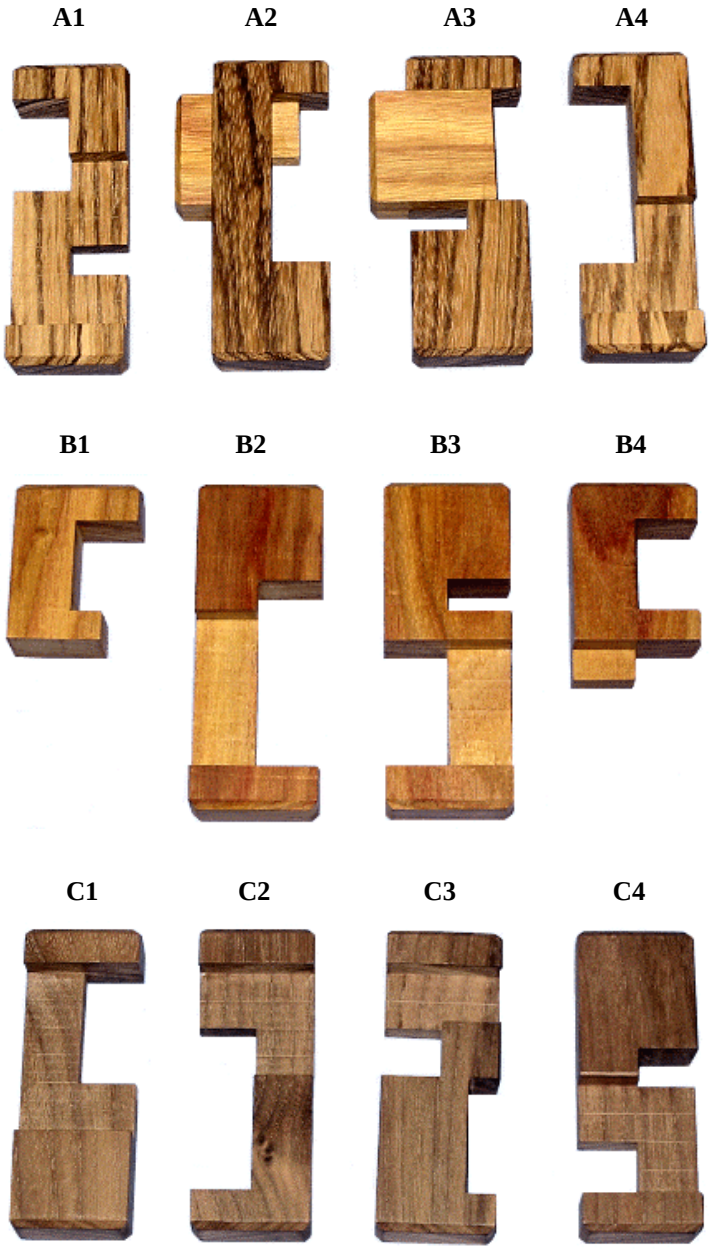
Step 13: Pull **B4** towards you.

Step 14: Slide the two assemblies together.

Step 15: Push **B4** back into the puzzle to lock it.

Positions of the sticks from this document's point of view:

A1, A2, A3 and **A4** are oriented up and down.
B1, B2, B3 and **B4** are oriented front to back.
C1, C2, C3 and **C4** are oriented side to side.



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34 Lili

Puzzle Goal:

Remove the bead

Materials:

Padauk wood, one bead, two nails, one magnet, four dowels and two marbles

Classification: Secret Opening

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34 Lili

Puzzle Solution:

Step 1: Hold the puzzle with the "D" facing down.

Step 2: Angle the puzzle down a few degrees with the bead end facing the palm of your hand, then strike it against the palm of your hand as shown in figure 1. (The strike dislodges a dowel held in place by a magnet. The strike must be precise—strike it too softly: the magnet won't let go, strike it too hard: the dowel will bounce back to the magnet after dislodging).

Step 3: Carefully flip the puzzle over so the "D" faces up. Make sure that you pivot on the bead end when you flip the puzzle.

Step 4: Briskly spin the puzzle.

Step 5: Stand the puzzle to the upright position without allowing it to lose contact with the surface as shown in figure 2.

If everything was done right, the bead will tumble out of the puzzle.

Now, putting the bead back may be considered a dexterity puzzle by some!

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35 Ship in Bottle

Puzzle Goal:

Remove the six pieces of the ship from the bottle and put them back into the bottle with the ship facing the opposite direction.

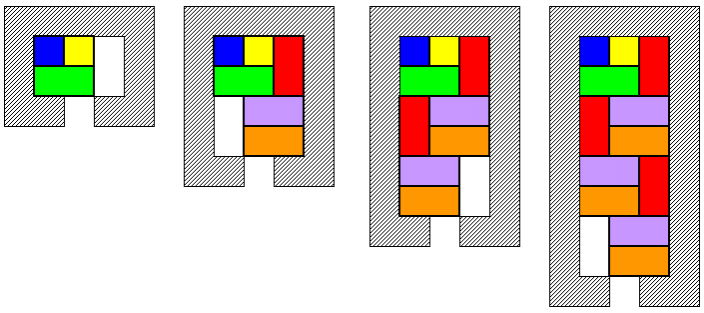
Materials:

Cherry and Acrylic

Classification: Put-Together, Sliding-Piece

Notes:

The scheme used in The Ship in a Bottle puzzle can be iteratively applied to give puzzles having an increasing number of moves to remove the first piece. This is shown in the figure at right.



The number of moves to remove the first piece is 6, 28, 50 and 72 for the four puzzles shown in Figure-8. This can be increased indefinitely. Whether these give the maximum number of moves required for such boxes given only dominoes and monominoes and two empty squares in the packing is yet to be proven. Of course, although the number of moves is large, the movements are largely repetitive. This is almost like the situation in Tower of Hanoi except that the solution to the Tower of Hanoi is recursive.

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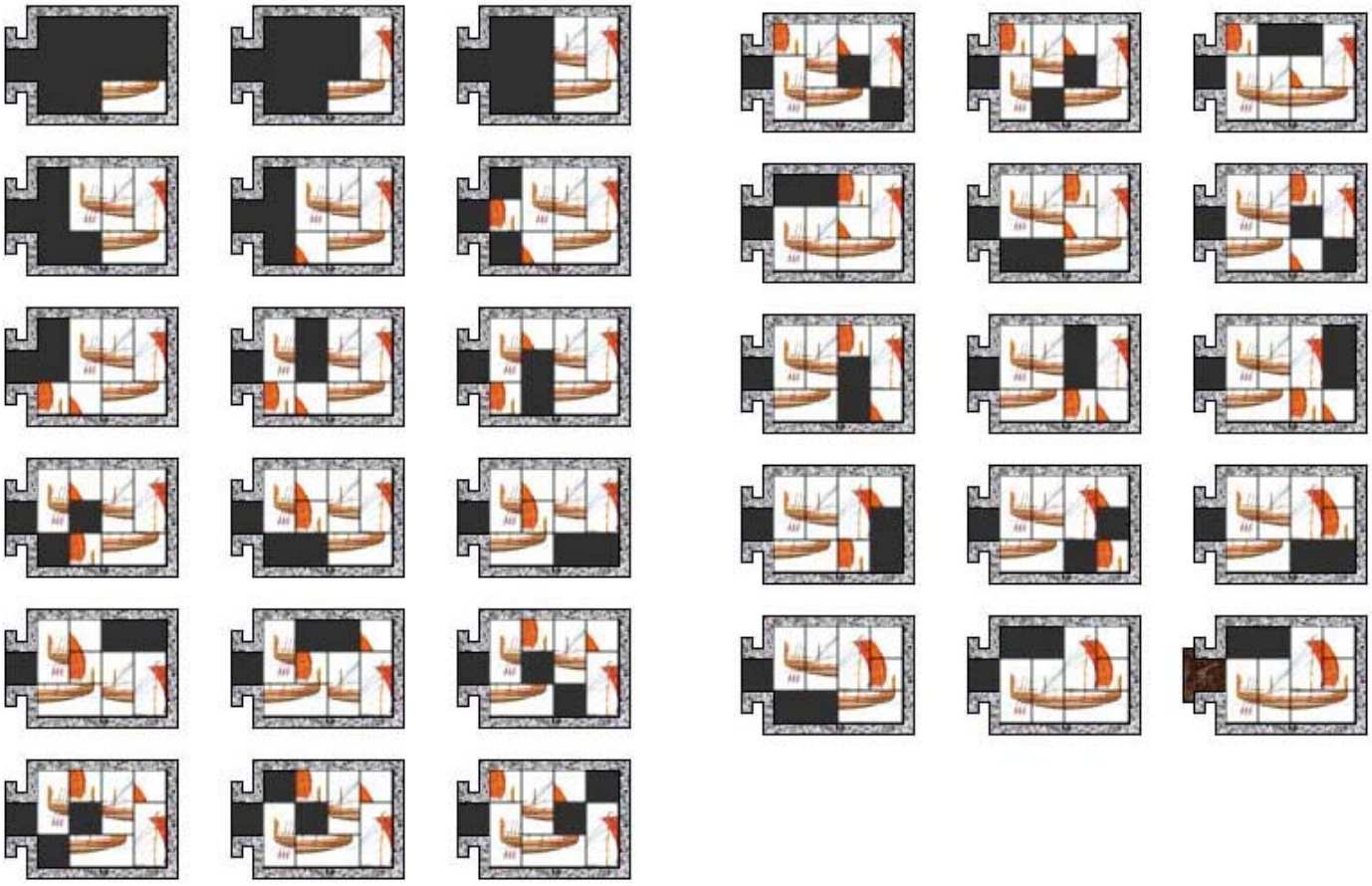
35 Ship in Bottle

Puzzle Solution:



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36 Hermaphroditic Blocks

Puzzle Goal:

Put together into a cube

Materials:

Masonite

Classification: 3D PAT-EDGE

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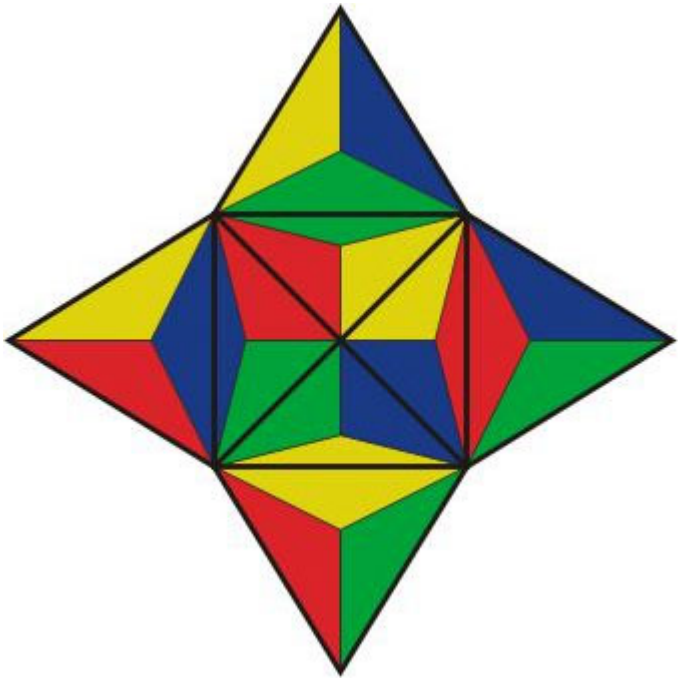
36 Hermaphroditic Blocks

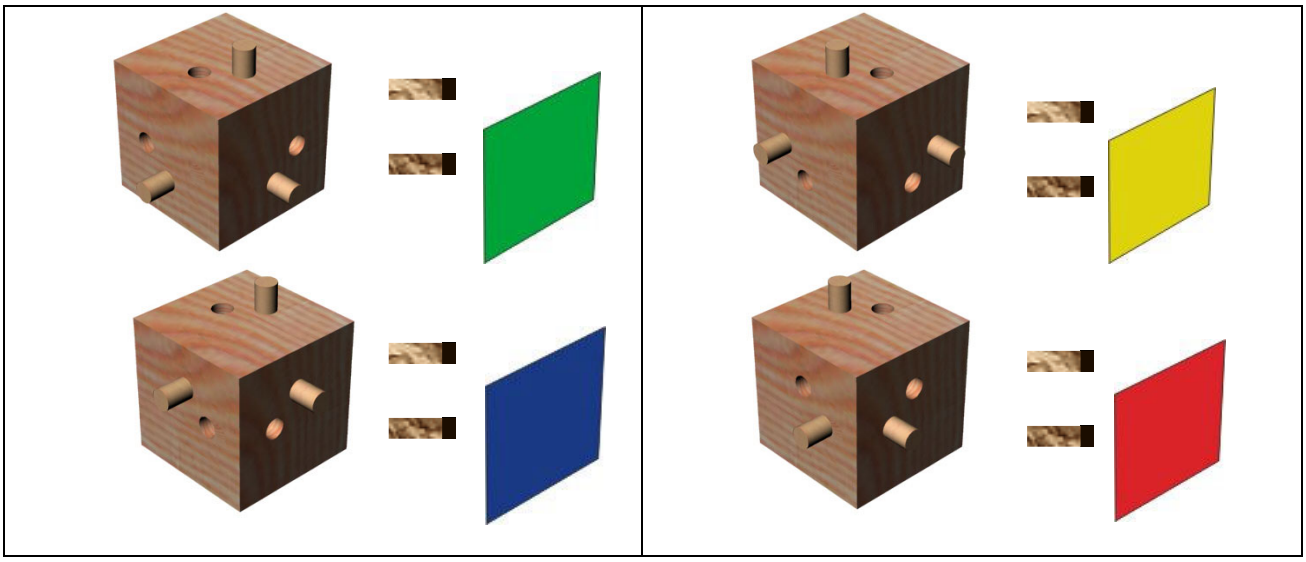
Puzzle Solution:



The solution to the Hermaphroditic Blocks is really quite simple once you understand that a dual exists. The dual is a four color edge matching on the sides of an octahedron.
Consider an octahedron which has 8 sides. Each side is an equilateral triangle with each edge a different color. The eight triangles represent the 8 ways four colors can be placed on the three edges of a triangle.

Here is a picture of the solution. The octagon is oriented with a corner facing you and the four back triangles peeled away to the sides so you can see all 8 of the triangles:

Now all we have to do is to relate each inside face of each block with a color. There are eight blocks. Each block relates to one of the eight equilateral triangles. Each inside face of each block corresponds to a particular color. Notice that each inside face has both a peg and a hole. There are four orientations of the peg and the hole. When viewing a block with the center corner facing you, you will see three inside faces. The colors are assigned only to the rightmost face. To get the color of one of the other faces you would have to rotate the cube around the major diagonal (of the outermost and innermost corner) until the face in question is positioned on the right, Then you must consult the chart below. Thus:



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37

Bent Board Burr #3

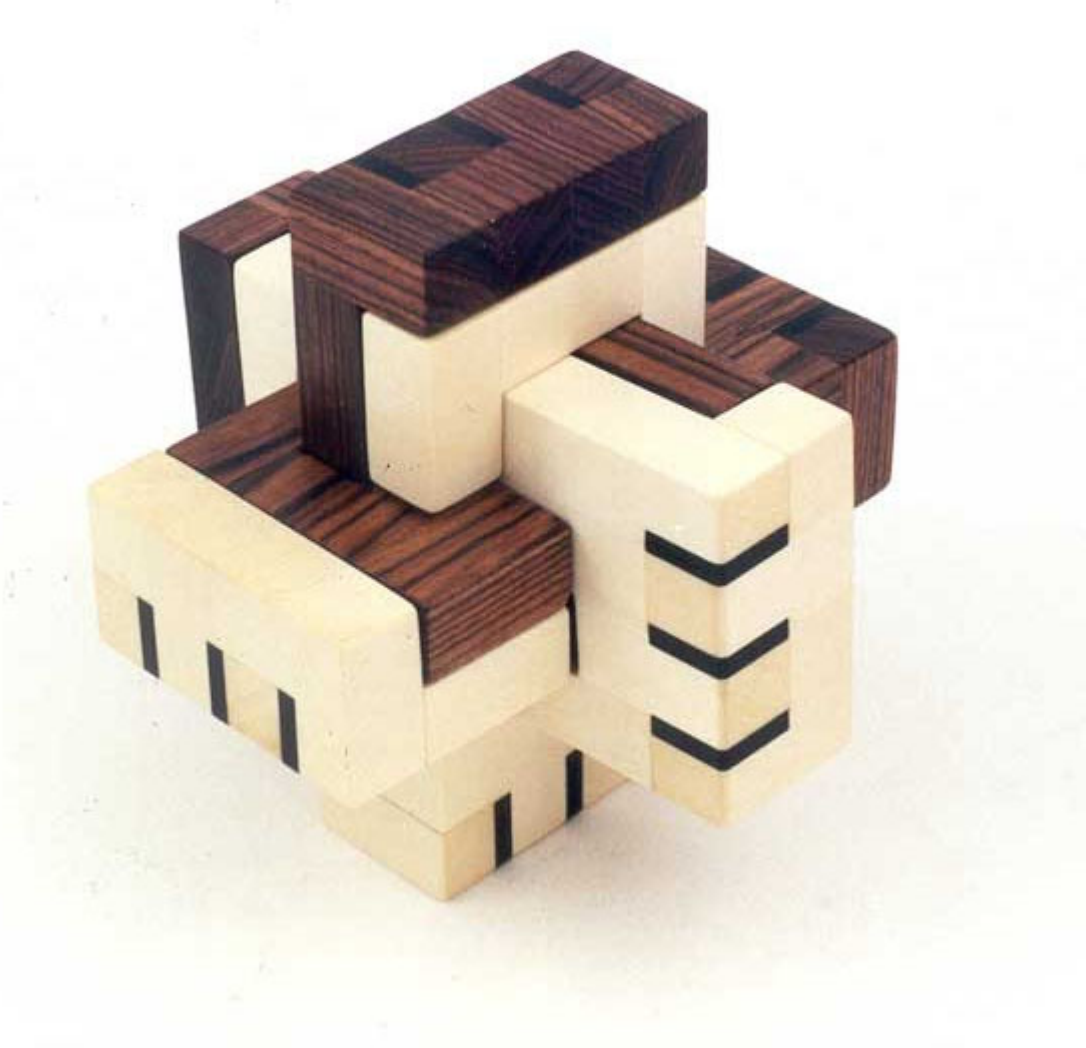
Puzzle Goal:

Assemble the six pieces to form a 3D-cross

Materials:

Kingwood & Holly, with Ebony accents

Classification: Burr



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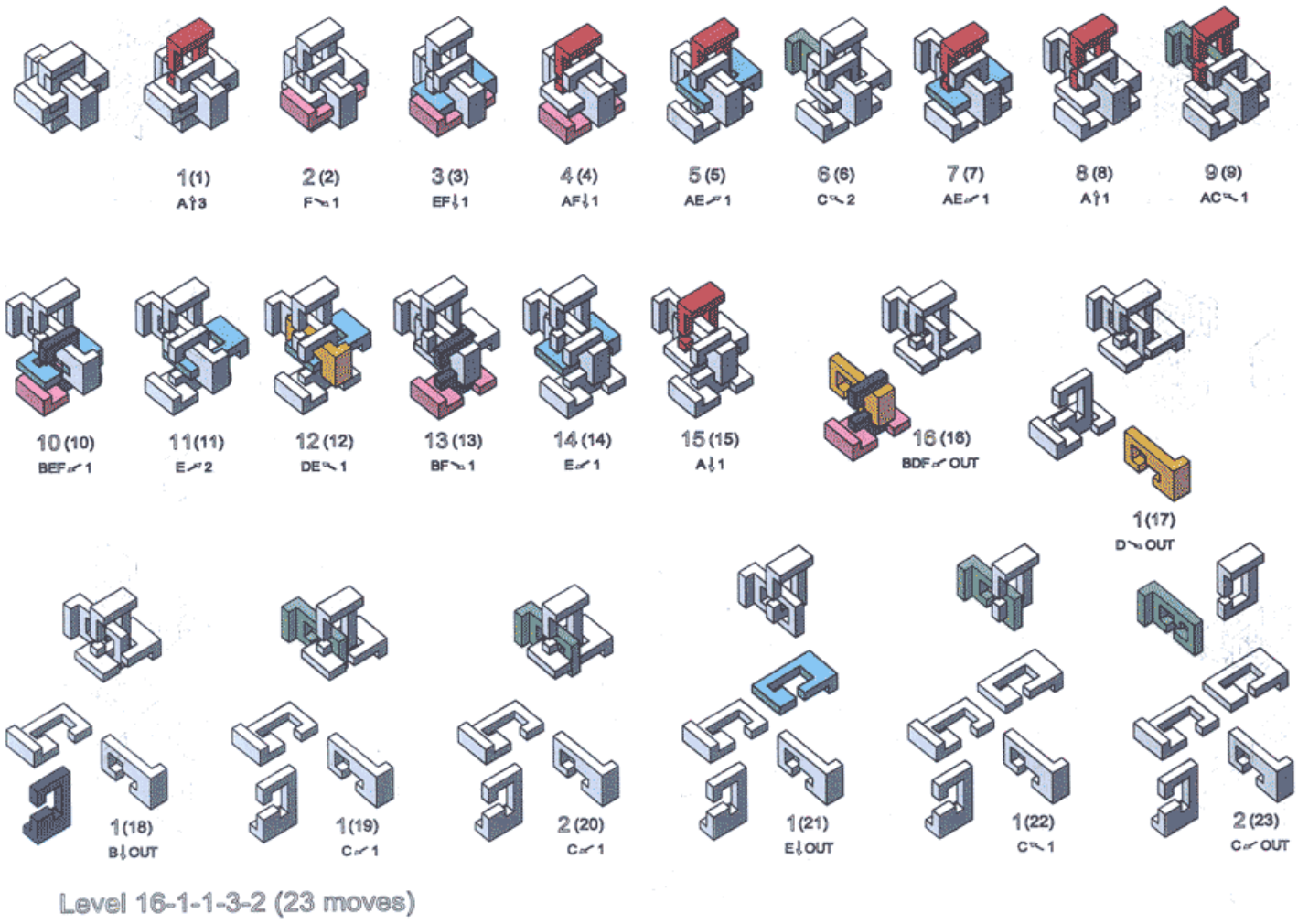
37 Bent Board Burr #3

Puzzle Solution:



Level 16-1-1-3-2 (23 moves)

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38

Pack 6

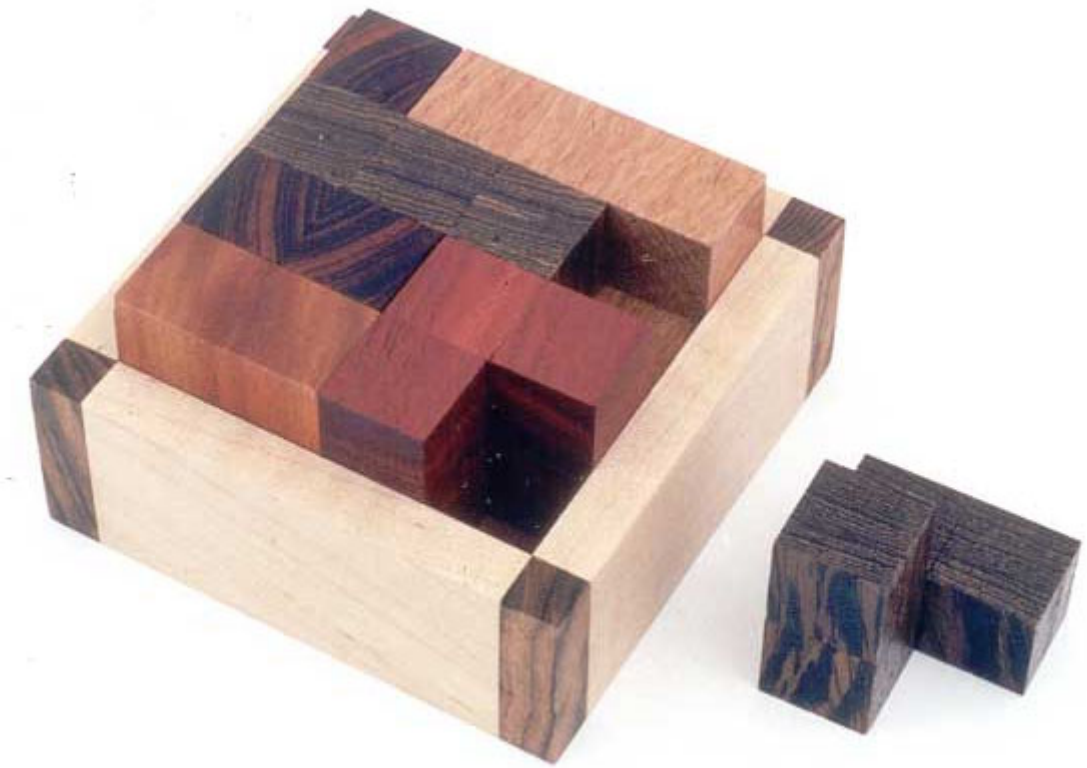
Puzzle Goal:

Pack the 6 pieces into the tray to form a 4x4x2 rectangle.

Materials:

Cocobolo, Wenge, Chakte Viga, Bocote, Bloodwood, Lacewood

Classification: Put-Together



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Puzzle Solution:

2223 2423

1133 2433

1165 4466

1165 1555

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39 Nurby Puzzle #1

Puzzle Goal:

Arrange the eight blocks so ALL the curved edges alternate in an up and down pattern, in both directions.

Materials:

Walnut and maple

Classification: Put Together

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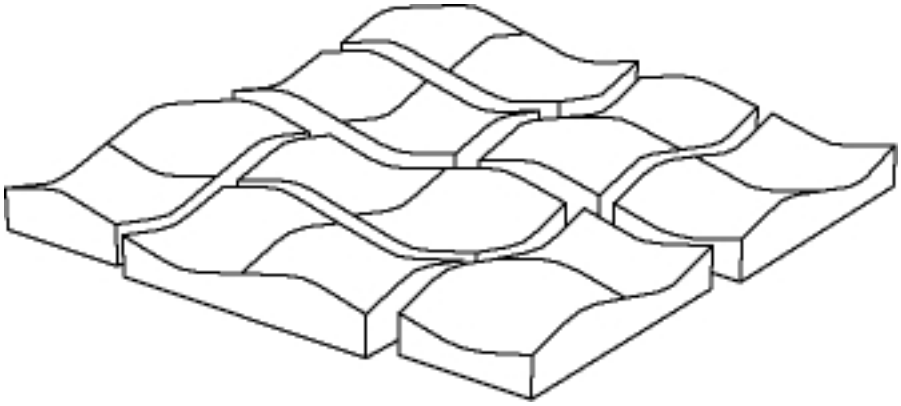
39 Nurby Puzzle #1

Puzzle Solution:



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40

Cat Case

Puzzle Goal:

Place four Cat pieces flat in the frames

Materials:

MDF board

Classification: 2D put-together

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40 Cat Case

Puzzle Solution:

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41 Keyhole Puzzle

Puzzle Goal:

Assemble the six pieces in two layers (of course with no screws showing).

Materials:

Walnut pieces with brass screws

Classification: Misc. Interlocking Solid Puzzle

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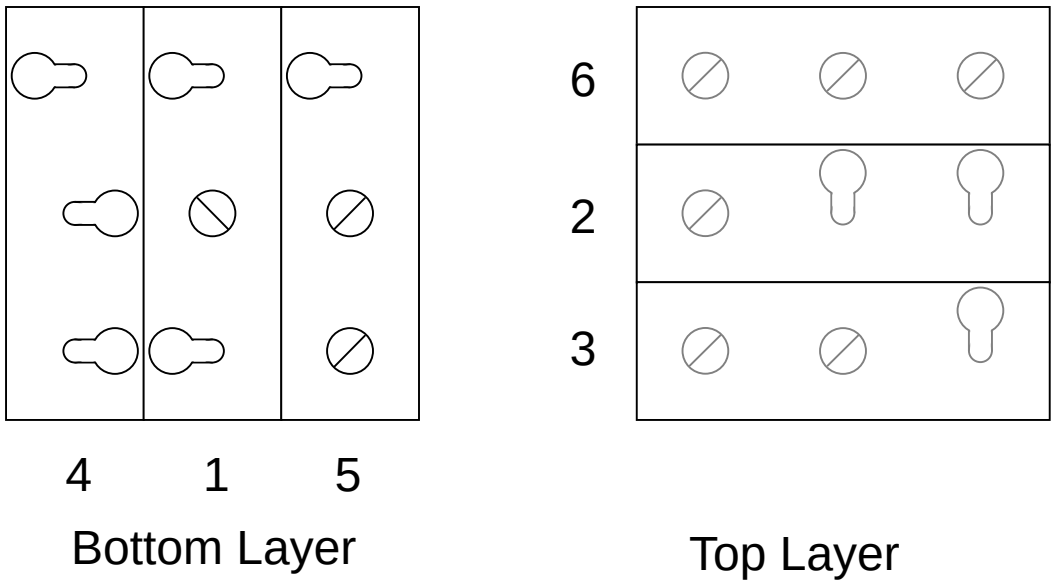
41

Keyhole Puzzle

Puzzle Solution:



Numbers indicate assembly order

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42

W-hoops

Puzzle Goal:

Disassemble and re-assemble

Materials:

Pinewood

Classification: Interlocking/Entanglement

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42 W-hoops

Puzzle Solution:

OPENING:

- **The thick 90 degree corners are released from their “U “shaped places with a pull and a click .**
- **Puzzle then becomes a tangle. Manipulate the open shapes so one is in left hand, other is in right and closed shape is in middle.**
- **Free one open shape from other open.**
- **Puzzle is now in “chain” shape. Last releases are straight forward.**

PUT TOGETHER:

- **Link two open shapes together so thick corner fits loosely into”U”shaped space.**
- **Third closed shape has to link with both open shapes with the thick section crossing near the interior of the puzzle.**
- **To show this position tie a loop of string loosely through the two linked shapes.Manipulate the two wooden pieces keeping the string in place until the two openings are close.**
- **Link the closed shape to the two others according to where the string indicates.**
- **Now the puzzle resembles a tangle.Untie the string.**
- **Move the pieces keeping them loose until they are nearly orientated-thick corner near “U”shaped space.Make the orientation closer for all three pieces. Final position is gained with a push and a click.**

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43 Decorated Box

Puzzle Goal:

Open the box

Materials:

Walnut, Wenge, and Maple

Classification: Take-apart puzzle

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43 Decorated Box

Puzzle Solution:

Push clockwise on inset pattern. When the motif shifts the box is unlocked. Open lid.

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44 QuadraHex Prism

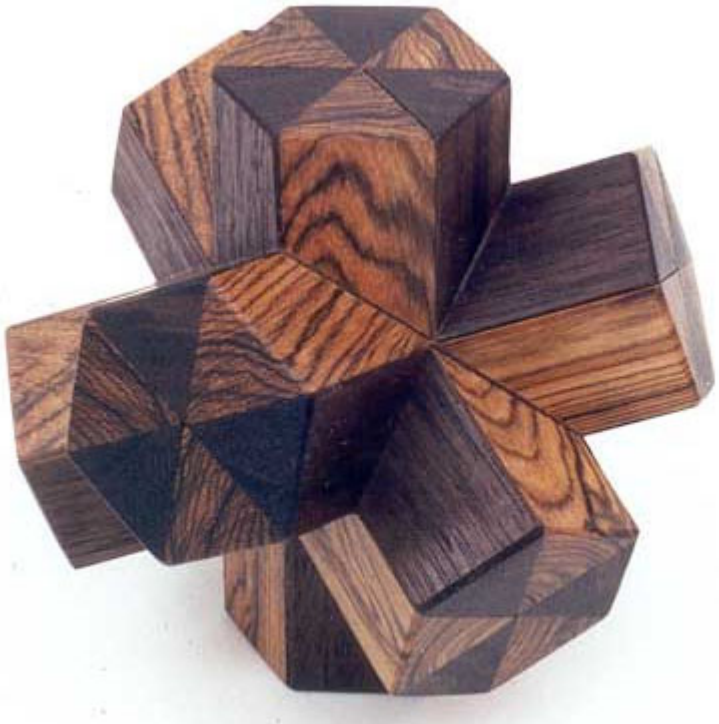
Puzzle Goal:

Totally disassemble all pieces, mix, then reassemble

Materials:

Peruvian Walnut and Bocote, with Imbuya center

Classification: Interlocking



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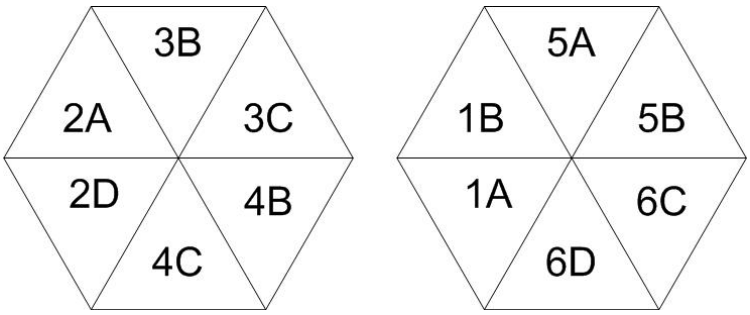
44 QuadraHex Prism

Puzzle Solution:

The puzzle is easy to disassemble by pulling on opposite halves of the same hexagonal prism. The puzzle will slide apart into two halves of three pieces each. If the pieces are shuffled, the solution can be difficult to find, especially by trial and error. Solution is believed to be singular. False solutions exist. Reassemble the puzzle by matching the centers of the two halves to the following figure. Rotate the two halves until they match up, then slide them together to complete reassembly.



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45 WOODEN CHEST - M31-N-3

Puzzle Goal:

Open the box

Materials:

balsa, pine-wood, iron (gussets)

Classification: secret Opening Box

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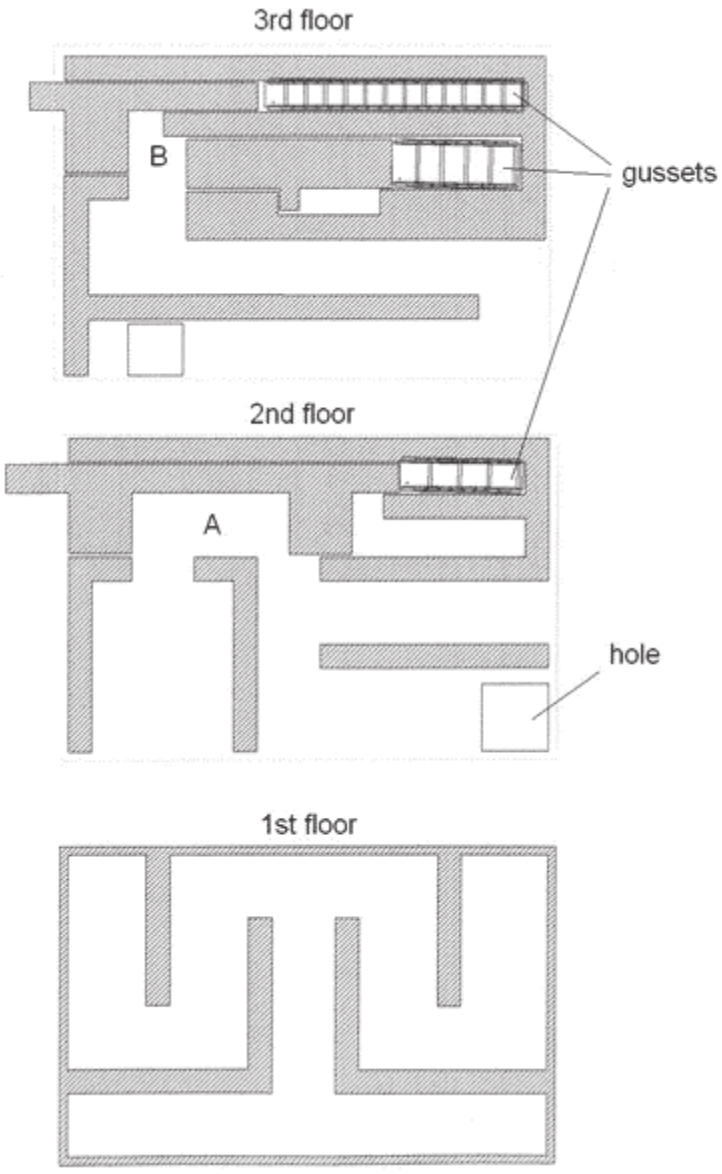
45 WOODEN CHEST - M31-N-3

Puzzle Solution:

Press and hold bottom button. Move the box horizontaly and vertically (of course turn around) to get the ball in maze to second floor (middle) to place noted A. After this release the button and the way to second part of second floor will be opened. Then please move the ball to third floor to place noted by letter B. Press the top button to push through ball to opening mechanism. To close the box please reverse the instructions.



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46

The Binary Burr

Puzzle Goal:

Take apart and put back together

Materials:

walnut and cherry

Classification: Burr

Notes:

The Binary Burr is a burr that functions like a 6-ring version of the Chinese Rings. The puzzle consists of 21 pieces. The key piece (piece Y in solution diagram) is equivalent to the 'bar' in a Chinese Rings puzzle, and pieces A, B, E, J, K and L are equivalent to the 'rings'. The other 14 pieces in the puzzle construct a 'cage' or 'box' that holds the other pieces in place.

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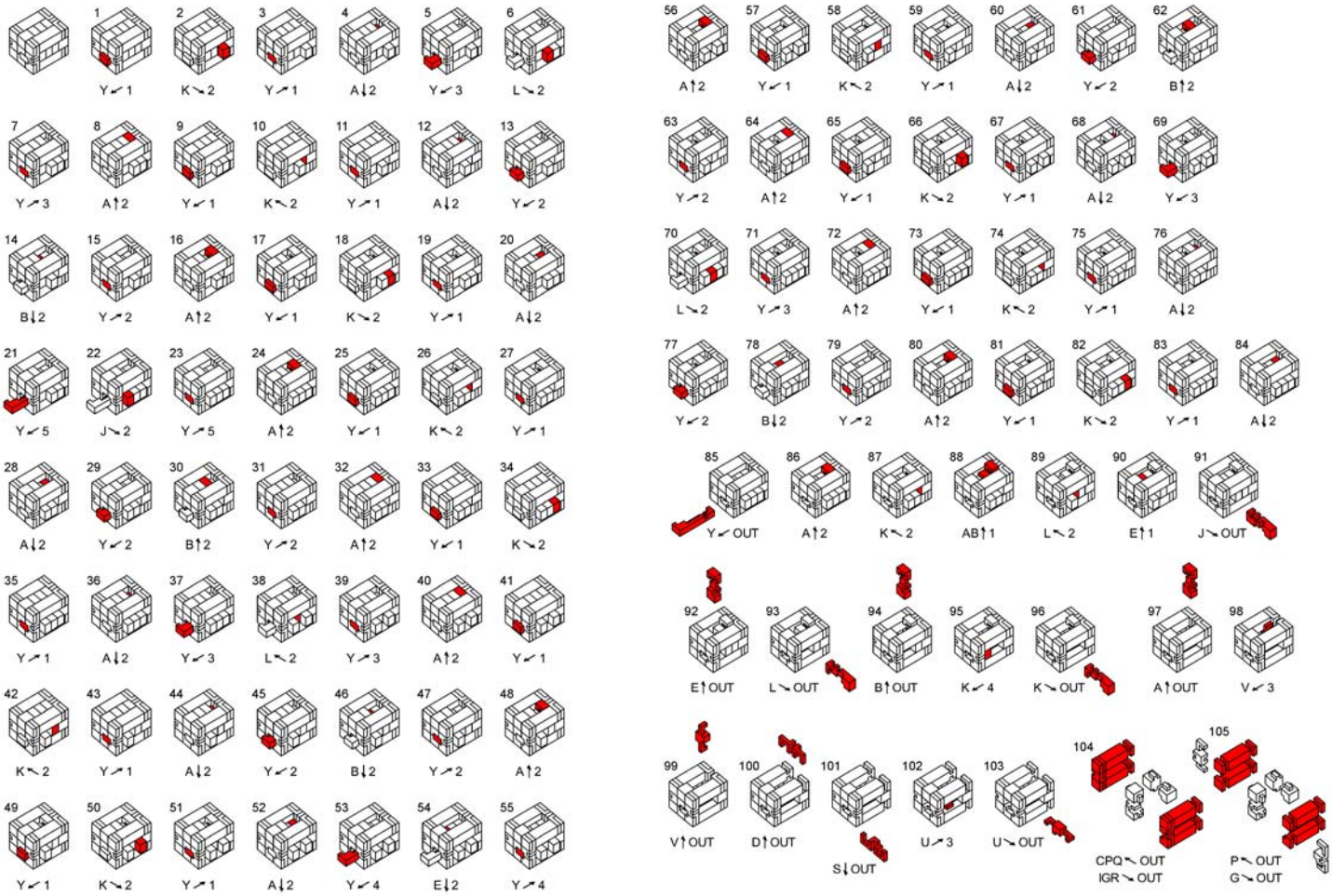
46 The Binary Burr

Puzzle Solution:

To disassemble the puzzle, the rings and bar must be manipulated until the bar is freed. After the bar is removed, then the rings can be removed one-at-a-time, and finally the remaining pieces come apart easily.



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47 Octo-Diamond

Puzzle Goal:

Seven pieces of four Octagons each all configured differently fit into a diamond with only one solution.

Materials:

Wood

Classification: Put-Together

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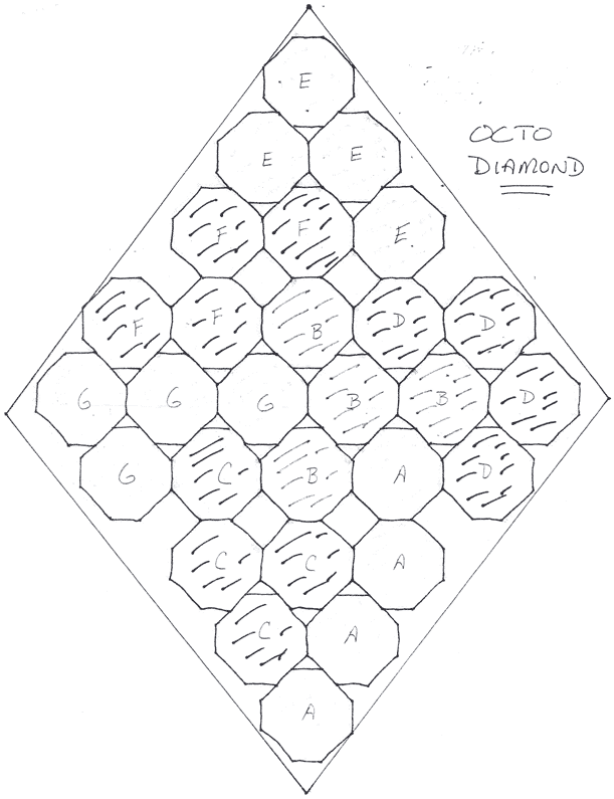
47 Octo-Diamond

Puzzle Solution:



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48 MagicaLand

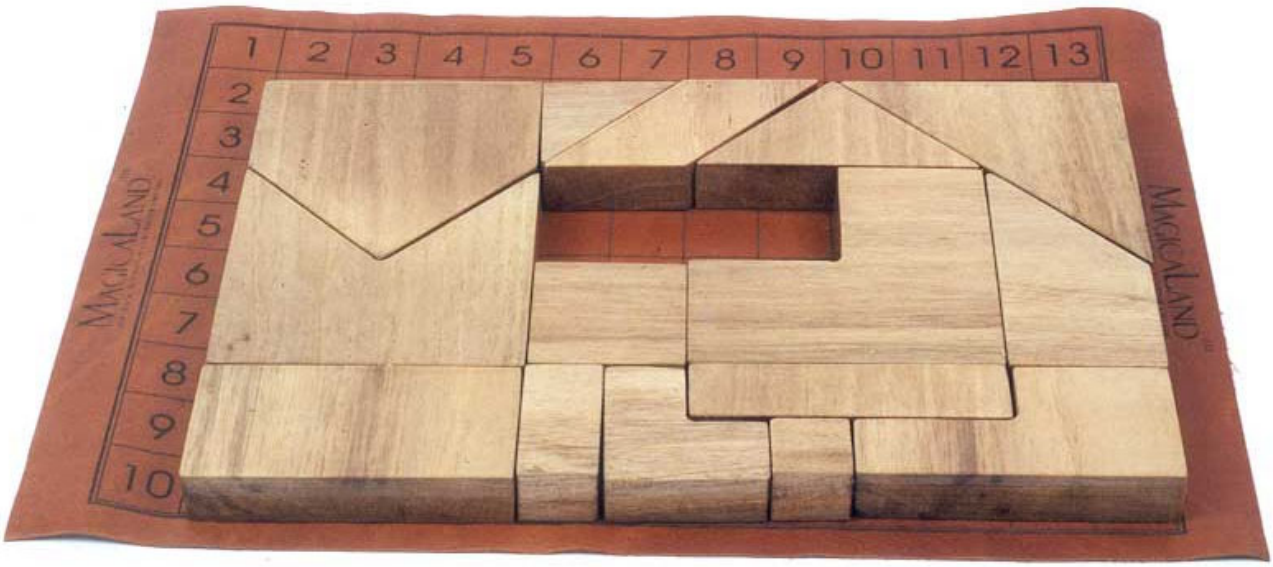
Puzzle Goal:

Combining all of 15 unique tiles, it is possible to make a huge number of pleasing figures geometrical, symmetrical, free-form shapes, etc.

Materials:

Wood, leather

Classification: Put-together



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MagicaLand

Puzzle Solution:

Solutions to various puzzles are given in puzzle booklet.

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49 Into The Groove

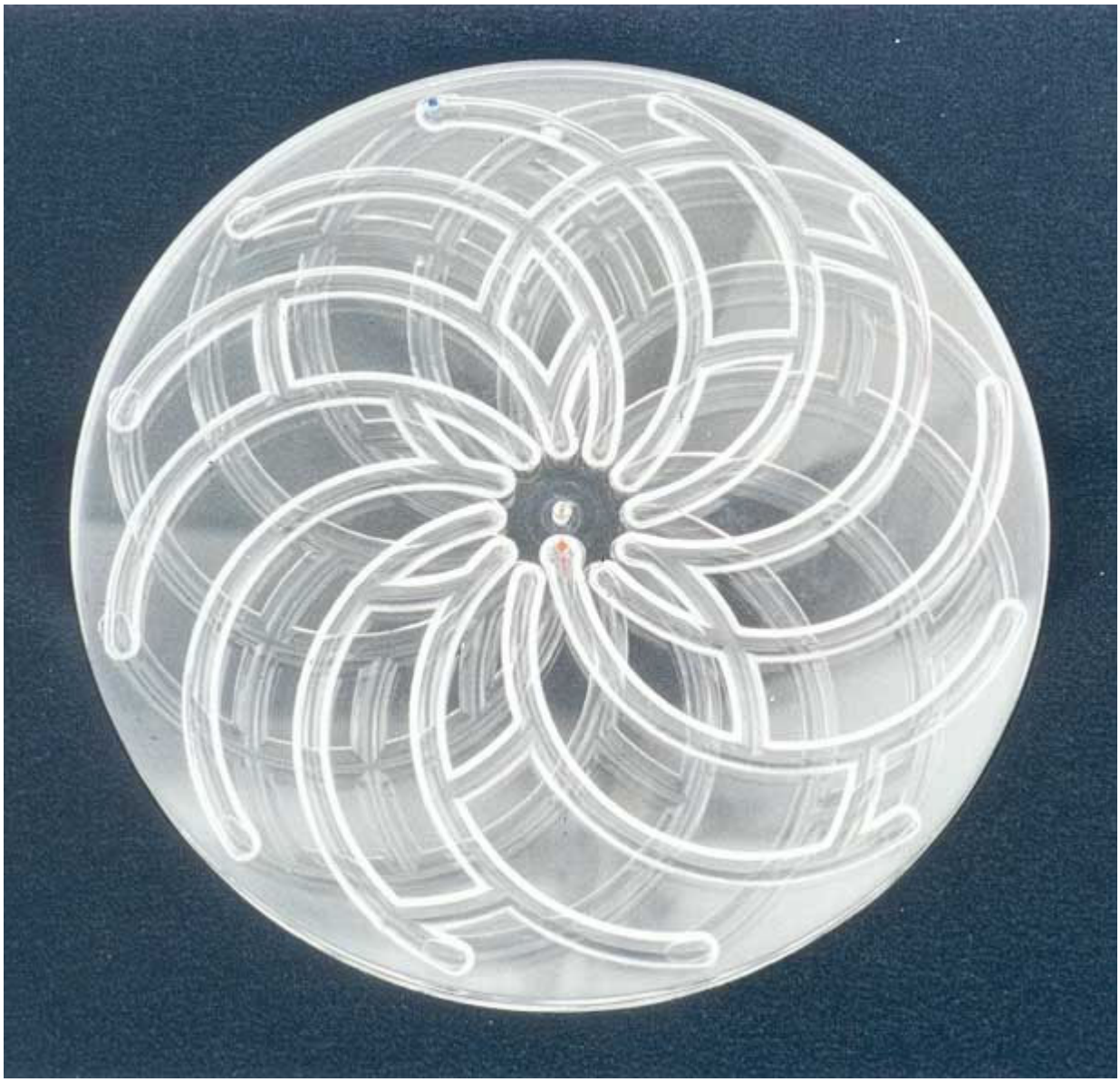
Puzzle Goal:

To navigate the ball from its position between the two blue dots to both the orange dots. Or the other way around.

Materials:

Acrylic sheet, metal ball, metal bolt

Classification: Labyrinth



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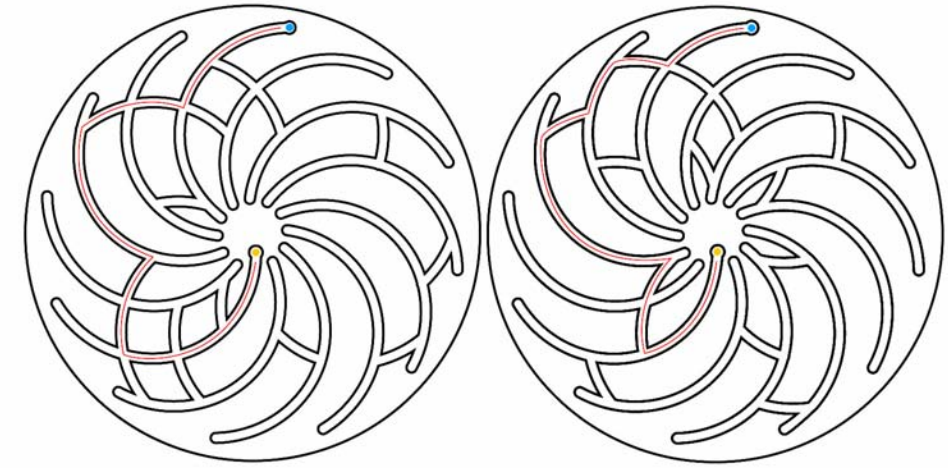
49 Into The Groove

Puzzle Solution:

Unlike a “normal” labyrinth the manipulation of the ball is done by turning one disk (labyrinth) with regard to the other disk so that the ball is moving in the crossing of two grooves. The separate labyrinths are simple. Put together, you have to make sure you move the ball in the right direction. Otherwise you will face a dead end.



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50

Six Key Mine

Puzzle Goal:

The puzzle is complete by installing all six pegs into the ball.

Materials:

Anodized aluminum

Classification: 3D-Assembly

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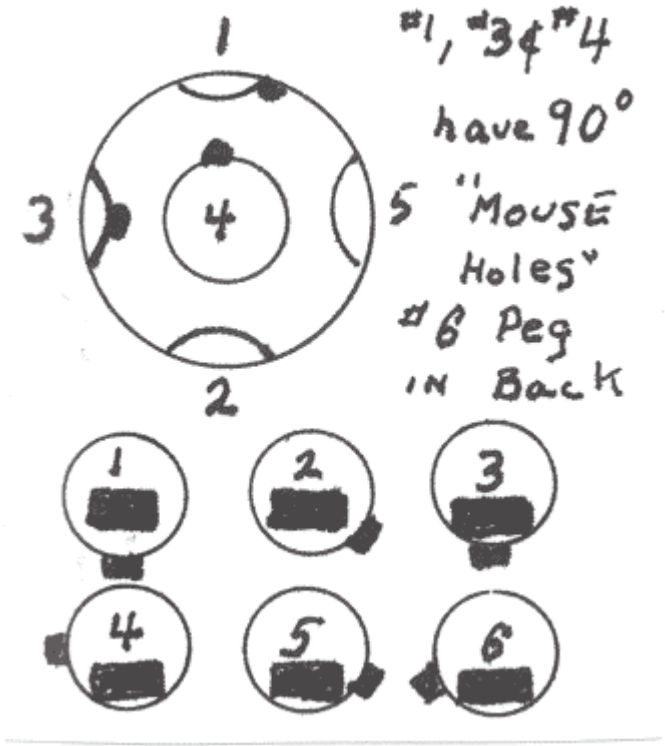
50 Six Key Mine

Puzzle Solution:



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51 Dodecahedron

Puzzle Goal:

The puzzle is completed by interlocking all tongue & slots along each of the 30 seams.

Materials:

Nickel-plated steel, magnets

Classification:

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51 Dodecahedron

Puzzle Solution:

See photo for half of the solution; the remaining tiles are placed symmetrically.

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52 Double Semi-Maze

Puzzle Goal:

Rotate the inner pieces 360 degrees.

Materials:

Anodized aluminum

Classification: Seq. Movement

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52 Double Semi-Maze

Puzzle Solution:

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